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2022  
Theme

**Social Determinants of  
Mental Health**

# Poster Proceedings

**Saturday, May 21, 2022**

**Poster Session 1**

**No. 1**

**“Legal Highs”: New Psychoactive Substances (NPS)-  
Emerging Trends, Psychiatric Burden and Learnings  
From Global Initiatives**

*Poster Presenter: Sahil Gehlot, M.B.B.S.*

*Co-Author: Mohammed Osman Sheikh, M.D.*

**SUMMARY:**

New psychoactive substances (NPS) which are colloquially known as “legal highs” have rapidly emerged as a concern worldwide. They are substances which have been engineered to replicate the effects of illegal drugs with the intention to avoid legislation. Legislation poses difficulties since it is difficult to define such substances as harmful or harmless due to lack of an objective measure of the psychoactive potential. The easy availability through friends, family and online shops which have international shipping make it easy to procure NPS. The terms such as “legal highs” further affect the attitudes amongst consumers and decrease barriers which are associated with substance use. Clinicians have not been able to educate themselves and not have adequate training due to the rarity of the published literature elucidating the physiologic effects, toxicology and safety. The lack of clinical laboratory testing further paints a grim picture. Thus, patients presenting to the emergency room who don’t recall what they used further complicates the situation leading to inappropriate care. A case of a 19 year-old who was admitted to inpatient psychiatry for management of mood symptoms following abuse of THC and a synthetic tryptamine (4-Acetoxy-N,N-diethyltryptamine) presented an opportunity to explore the concerns regarding the psychiatric burden in the USA and education in light of awareness lacking amongst clinicians regarding appropriate testing, ancillary services and management. Data analysed from 2007-2014 showed an increase in use of NPS between the age group of 18-25 years and a pattern of polysubstance use throughout their life. A project – NEPTUNE which is the UK network for NPS has been established to enhance clinical practice when dealing

with the effects of NPS through the use of clinical guidance documents. NPS is more prevalent in those with mental health problems and in the younger age group which may have a negative impact on population mental health outcomes. Project NEPTUNE should be adapted to the US to improve care. Affordability is one of the most frequently mentioned reason for not receiving mental health services in the USA and this further makes the precarious socioeconomic situation worrying even though the life-time prevalence use of NPS did not vary according to levels of wealth. Further research into the public health burden and the clinical effects and monitoring is needed.

**No. 2**

**Docuquips: Effective Documentation for Residents**

*Poster Presenter: Julia Salinas*

*Co-Authors: Elizabeth Crocco, David Mauricio  
Martinez Garza, M.D.*

**SUMMARY:**

One of the biggest challenges faced by residents, particularly at the start of their training, is learning how to document their clinical encounters in the electronic medical record (EMR). Current evidence suggests that residents are spending an increasing amount of time documenting their clinical encounter in the EMR and that the quality of documentation has been decreasing. This has been especially relevant in Psychiatry, where communicating a “narrative” is of particular importance. There is very little formal education on effective documentation during medical school and residency training, leading to varying levels of documentation proficiency and efficiency amongst residents. This can have various consequences on physician wellness and patient care, including increasing resident burnout and decreased face-face time spent with patients. Methods: This project consisted of several interventions aimed at improving psychiatry residents’ proficiency and efficiency in clinical documentation. The first intervention consisted of documentation lectures by faculty given to the PGY-1 class reviewing fundamentals of documentation, including navigating the EMR and reviewing the components of a Psychiatric evaluation based on current CMS guidelines. The second intervention

consisted of peer-to-peer interventions between senior residents and PGY-1 residents with a focus on reviewing documentation and providing support as needed. The third intervention consisted of individual sessions between PGY-2 residents and faculty aimed at reviewing documentation and reinforcing documentation fundamentals. The impact of these interventions was measured using post-intervention surveys administered to the PGY-1 and PGY-2 classes focusing on 4 domains: burnout related to documentation, time spent on documentation, satisfaction with current interventions and confidence level in documentation. Results: The survey results indicated that a large majority of residents experienced burnout and stress related to documentation. Many residents indicated spending less time on documentation and had increased levels of confidence related to documentation after the interventions. Overall, the majority of the residents surveyed were satisfied with the current interventions. Conclusion: A pilot intervention program teaching effective documentation to residents improved documentation proficiency and resident well-being.

### No. 3

#### **Initiating, Developing, and Assessing the Effectiveness of an LGBTQ Mental Health Curriculum in a Psychiatry Residency Program**

*Poster Presenter: Huma Baqir, M.D.*

*Co-Author: Cynthia Ann Pristach, M.D.*

#### **SUMMARY:**

**Background:** Numerous studies show that LGBTQ individuals demonstrate unique patterns of mental health issues [1,2]. However, little is known regarding LGBTQ-specific training among adult psychiatry residency programs [2]. Though the ACGME program requirements encourage residents to gain competence related to gender and sexual orientation, they do not describe how training programs are to achieve those goals [3]. **Objective:** An LGBTQ mental health curriculum was developed at the University at Buffalo earlier this year to improve psychiatry residents' knowledge regarding the subject, with the eventual goal of improving their level of comfort, when dealing with

management of LGBTQ patients in both inpatient and outpatient settings. **Methods:** The course was divided over four one-hour didactic sessions, integrated in the weekly resident didactics in March 2021, and delivered via Zoom. They were led by a resident and two faculty members. The sessions included sexual history taking, healthcare disparities as experienced by LGBTQ individuals, transgender hormone therapy and media theatre. Prior to and after the course, psychiatry residents from PGY1 to PGY-4 (n=25) were invited to participate in pre-and post-surveys. Survey Monkey was used to design and conduct the surveys, which included close-ended questions comprising a 4-point Likert scale (1- strongly agree, 4- strongly disagree). Residents rated their perception of and comfort level regarding sexual history taking, healthcare disparities and hormone therapy. An additional section for open-ended comments was also included. **Results:** A total of 23 residents attempted the pre-survey and 20 residents attempted the post-survey. Prior to the course, 22.7% residents "strongly agreed" that it was important for them to obtain a sexual history; this increased to 60% after. 21.7% residents "strongly agreed" that they felt confident taking a sexual history prior to the initiation of the course; this increased to 40% after. On the topic of hormone therapy, 30.4% residents "strongly agreed" that it was important to learn about it; this rose to 45% after. Initially, only 4.5% residents "strongly agreed" that they felt comfortable caring for patients on hormone therapy; following the course, this number increased to 30%. Similarly, 52.1% residents "strongly agreed" that it was important to be aware of healthcare disparities as experienced by LGBTQ patients; this increased to 85% after the course. Only 8.7% of residents "strongly agreed" to being aware of healthcare disparities prior to the course, with 60% reporting strong agreement after. Open-ended feedback indicated excitement, increased confidence and appreciation for the course. **Conclusion:** This course was the first of its kind at the University at Buffalo, and was very well-received. It emphasized the importance of integrating LGBTQ-focused training in psychiatry residency programs, and garnering feedback from learners to allow this training to evolve over time.

#### No. 4

##### **Be an Ambassador: Model United Nations as Educational Tool to Increase Awareness on Global Mental Health in High School Students.**

*Poster Presenter: Richard Bido Medina, M.D., Ph.D.*

*Co-Author: Daniel Camejo*

##### **SUMMARY:**

**Background:** The Model United Nations (MUN) is an educational activity that consist of a simulation of the UN Diplomats meetings. In these events, high schools students engage in debates and negotiations about possible solutions to topics of global interest. Historically, this activity has been used to discuss topics related to international law, economics and politics. We simulated a special session of the World Health Organization (WHO) Assembly on global mental health, with two major topics for the agenda: (1) mental health of the refugees, migrants and other vulnerable populations, and (2) adolescents and psychoeducation. **Methods:** A total of 102 high school students participated in the simulation of the WHO Assembly in April 2019 in the New York Model UN for Latin America and the Caribbean (NYMUNLAC 2019) at the UN Headquarters in NYC. The students were divided in couples (Delegation) and each Delegation was assigned a country that they had to represent in the role of Ambassadors before the WHO. Previous to the simulation, the participants received 2 training workshops about UN procedural rules, global mental health and the two major topics of the agenda. In addition, they received a "Delegate's Handbook" with core information about the procedure and the topics. They also participated in a global mental health expert panel. Students were surveyed before, during and after the event. Their performance and learning progress, in terms of the academic content, was strictly evaluated by 3 MUN experts that worked as the moderators of the debate. Importantly, before the sessions, each Delegation had to send one "position paper" per topic formally documenting their posture and potential solutions to the presented issues. The major points of the evaluation were: written documentation, speeches, negotiations/debate and resolutions. A "global crisis" was also simulated and participants were challenged to solve it in 2 hours. **Results:** After the event, 95% of the students reported to have increased their knowledge about

global mental health (58% pre survey) and 72% expressed interests in pursuing experiences related to the topics in their future careers (25% pre survey). Of note, 98% of the students were able to conduct a systematic review of relevant bibliographic (APA) resources to document their postures about the topics and propose meaningful solutions. Notoriously, in the pre survey only 5% of the students were able to define and list at least 3 social determinants of health, this number increased to 98% in the post survey. During the event, 100% of the students were able to define and provide examples of the biopsychosocial model of mental health, compared to the 5% pre-event. 98% was able to recognize the main challenges of the vulnerable populations and to identify the most prevalent mental disorders in adolescents. **Conclusion:** The MUN is an effective educational tool to create awareness of global mental health issues/challenges.

#### No. 5

##### **Managing Tachycardia Over 120 Bpm for Patient on Clozaril**

*Poster Presenter: Nikunj Talati*

##### **SUMMARY:**

SM, a 47 year old male with schizophrenia, presented to our inpatient psychiatric unit with acute psychosis. He was brought in from his group home due to persecutors delusions that a man with a gun was trying to kill him and grossly disorganized speech and behavior. On initial assessment, the acute psychotic episode occurred despite the patient being prescribed both quetiapine and haloperidol. A cross titration and then trial of olanzapine was unsuccessful, at which time he was initiated on clozapine. However, SM developed persistent tachycardia than 120 beats per minute. There are guidelines for the management for clozapine induced tachycardia. However, there is scant literature on the management of clozapine induced persistent tachycardia greater than 120 beats per minute. Herein we present our management strategy for this complication.

## No. 6

### Evaluation of a Pipeline Program in Psychiatry for Minority Students.

Poster Presenter: Ellen Joo Kim, M.D.

Co-Authors: Alicia A. Barnes, D.O., M.P.H., Tim Chrusciel

#### SUMMARY:

**Background** The mental health crisis in our society must be met with greater access to quality care that is culturally appropriate. Patient-physician racial concordance is linked with improved care and heightened satisfaction ratings among minority populations. While research has shown the efficacy of existing pipeline programs in increasing minority students' interest in medicine, these programs lack a robust psychiatry and mental health curricula. We implemented and evaluated a psychiatry curriculum for minority high school students. **Methods** We partnered with Saint Louis University School of Medicine's Summer Scholars Program. The pipeline program ran twice, once virtually and once in-person with a core curriculum of four modules. The curriculum included an introduction to psychiatry, an overview of common disorders and treatments, and applications of positive mental health. The virtual program had additional guest lectures from attendings in various psychiatric subspecialties. The program was evaluated using pre- and post-curriculum surveys. Survey questions were grouped into four categories: 1) attitude towards mental health, 2) confidence in ability to address mental health in the community, 3) interest in psychiatry and mental health careers, 4) clinical knowledge. The former three used 5-point Likert scales while the latter consisted of multiple-choice questions with a single correct response. For the first three categories of questions, paired t-tests were used to compare mean participant scores. For clinical knowledge, McNemar's test was used to assess differences in paired responses. Alpha of 0.05 was used for all tests. **Results** 28 high school students participated in the program. 20 completed both pre- and post-surveys. The mean age was 15.7 years. Twelve (60%) identified as female, and eight (40%) as male. Twelve (60%) identified as Asian, six (30%) as African American/Black, one as Hispanic/Latinx (5%), and one (5%) as other. Students showed improved mental health attitudes (Pre: M=3.95, Post: M=4.23,

p<0.01). Students also showed significantly greater confidence in their ability to address mental health stigma and find resources in their communities (Pre: M=3.68, Post: M=4.16, p<0.01). There was a small increase in interest in medicine, psychiatry, and mental health careers but the results were not statistically significant (Pre: M=3.99, Post: M=4.08, p=0.14). There was a statistically significant increase in clinical knowledge (Pre: M= 62.8%, Post: M=85.1%, p<0.01). Controlling for sex and ethnicity showed similar increases from pre- to post-survey scores but were not all statistically significant.

**Conclusion** This pilot study showed the feasibility of implementing a psychiatry and mental health focused pipeline program for minority high school students. It demonstrated positive changes in knowledge, mental health literacy, and attitudes regarding psychiatry and mental health after exposure to the curriculum.

## No. 7

### The Mask of Psychiatric Disorders: A Case of Acute Inflammatory Demyelinating Polyneuropathy in Postpartum Psychosis and Bipolar I Disorder

Poster Presenter: Avani K. Patel, M.D.

Co-Authors: Sara H. Gleason, M.D., Tiffany Pike-Lee, Maria Bueno Rios

#### SUMMARY:

**Background:** Psychosis and behavioral disturbances may sometimes be the primary focus when caring for a patient, oftentimes masking possible underlying medical conditions. Here we report a case that initially presented as postpartum psychosis, mania, and unspecified neuropathy leading to an additional diagnosis of paraparesis secondary to acute inflammatory demyelinating polyneuropathy (AIDP). AIDP is an autoimmune process characterized by ascending weakness, areflexia and sensory changes often preceded by a viral illness and can become life threatening. **Case Presentation:** A 39-year-old female with known psychiatric history of bipolar 1 disorder, previous episode of postpartum psychosis, and reported history of mild peripheral neuropathy was admitted for postpartum psychosis and unspecified neuropathy. A comprehensive MSE revealed paranoia, hallucinations, delusions of telepathic

communications, and symptoms of mania. Physical exam findings were notable for bilateral lower extremity weakness, numbness, and tingling with inability to ambulate in addition to a target-like lesion on the lower extremity. Home medications of quetiapine and lorazepam were restarted to aid with psychosis and to prevent benzodiazepine withdrawal. Neurology and Infectious Diseases (ID) were consulted, and patient was transferred to Neurology service for paraparesis with areflexia with psychiatry following. The initial differential diagnoses included conversion disorder, Lyme disease, West Nile virus, or other peripheral neuropathy. While on the Neurology service, patient became very agitated with worsening mood lability, causing increased risk to attempt more invasive investigations; however, her paresthesias began progressing up to her hands with significant allodynia to light touch. Patient's agitation and behavioral disturbances were stabilized with home medications and PRN medications. Per ID, the concern for Lyme disease was low, and the remaining ID workup was negative. CT head and CT c-spine were unremarkable. EMG/NCS were completed, showing axonal features of neuropathy. Lumbar puncture and CSF lab studies showed albuminocytologic dissociation with CSF protein of 128 and CSF WBC of 0, which is the key supportive finding for AIDP. Thus, IVIG therapy was initiated. She began to show some improvement in sensory symptoms and motor exam in the lower extremities and was then discharged to a rehabilitation facility. Conclusion: Here we report a unique case in which a patient was diagnosed with postpartum psychosis and bipolar 1 disorder in addition to paraparesis secondary to AIDP. When confronted with a patient demonstrating a myriad of psychiatric symptoms, behavioral disturbances, and neuropathy, a clinician must persist with essential medical workup and collaborate with other services to consider the possibility of a general medical condition such as AIDP which can become life threatening.

## **No. 8**

### **When Psychosis Versus Infection Ravages the Mind: A Case of Late Latent Syphilis**

*Poster Presenter: Avani K. Patel, M.D.*

*Co-Author: Mark Ladner, M.D.*

## **SUMMARY:**

Background: Psychosis may be caused by many general medical conditions, including neurosyphilis. Here we report a case that initially presented as acute psychosis leading to a diagnosis of late latent syphilis in addition to major neurocognitive disorder with depressive features, unspecified psychotic disorder, and intellectual development disorder. Case Presentation: A 60-year-old African American male with past medical and psychiatric history of hypertension, intellectual development disorder, unspecified neurocognitive disorder, and bipolar disorder presented to the emergency room with erratic, disorganized, aggressive behavior in the setting of medication non-compliance. After admission, a comprehensive mental status exam revealed MOCA score of 0/30 in addition to depressive and psychotic features. Outside hospital records and neurology consult were inconclusive due to patient's uncooperative nature. Labs were significant only for reactive syphilis antibody, non-reactive RPR, and reactive Treponema Pallidum Particle Agglutin. The initial differential diagnoses included neurosyphilis, major neurocognitive disorder, unspecified depressive disorder, and unspecified psychotic disorder. Upon further procurement of history, patient's sister and conservator reports patient was treated for shingles in the past but does not recall being treated for syphilis stating that patient was once functional with activities of daily living with intact memory and cognition. CT head imaging did not show any acute intracranial findings but did show cerebral atrophy, greater than expected for patient's age. Lumbar puncture was unremarkable including non-reactive VDRL in cerebrospinal fluid. Thus, we were able to begin treatment for late latent syphilis with Penicillin G 2.4 million units intramuscularly weekly for 3 weeks and reported to the state health department. Although the patient was not found to have a diagnosis of neurosyphilis, patient was able to receive adequate treatment and showed improvement throughout hospital course after treatment for the following diagnoses: late latent syphilis, major neurocognitive disorder with depressive features, unspecified psychotic disorder, and intellectual development disorder. Conclusion: Here we report a unique case in which a patient demonstrating psychotic features, depressive

features, intellectual delay, and dementia was diagnosed with late latent syphilis. In the last decade, there has been a marked resurgence of syphilis in the United States despite availability of effective treatments. When confronted with a patient demonstrating a myriad of psychiatric symptoms, a clinician should consider the possibility of a general medical condition such as neurosyphilis or late latent syphilis.

#### **No. 9**

##### **Long Term Zolpidem Dependency Exceeding 100 Times the Maximum Dose: A Case Report of Severe Withdrawal Syndrome and Detoxification**

*Poster Presenter: Derek Michael Kohler, D.O.*

*Co-Author: Maha Gaber*

#### **SUMMARY:**

Zolpidem is a nonbenzodiazepine hypnotic medication indicated for short-term use in patients with insomnia and has the potential for misuse. It is thought that adaptive changes over time in the GABA-A receptors play a role in the development of tolerance and dependence. Severe withdrawal symptoms from zolpidem are rare with a reported incidence of 1% or less. This incidence is likely higher with misuse. Abruptly discontinuing high doses and after chronic use has the potential for severe symptoms that can resemble withdrawal from benzodiazepines. This can include anxiety, gastrointestinal issues, and seizures. Symptoms frequently occur within 48 hours following the last dose of zolpidem. Our case describes a 46-year-old Caucasian female with a history of hypothyroidism, insomnia, depression, anxiety, and two decades of escalating zolpidem misuse with daily doses ranging from 300 to 1200 mg. She reported six incidents of withdrawal seizures in the past year from unsuccessful discontinuation. She presented 24 hours after her last dose with findings that included visible discomfort, anxiety, slight confusion, photosensitivity, body aches, abdominal discomfort, nausea, diarrhea, mild tremor, and piloerection. She was unsuccessfully managed with diazepam prior to hospitalization. While in the hospital she received levetiracetam for seizure prevention and per Poison Control was started on a three-day phenobarbital taper to prevent further withdrawal symptoms.

Trazodone was started for rebound insomnia. Low dose gabapentin was also started at bedtime for situational anxiety related to sleep onset. Symptoms and sleep improved without any incidence of seizure. The objective of this case report is to educate clinicians about zolpidem tolerance and its abuse potential. Discontinuation after abuse can lead to withdrawal seizures and other severe symptoms. Our case highlights the severity of dependence, the withdrawal course, and successful symptom management.

#### **No. 10**

##### **COVID-19 Calamity: The Trend of Alcoholism During the Pandemic**

*Poster Presenter: Michael Seigler*

*Co-Authors: Michael Garcia, M.D., Arthur Leitzke, M.D., Jennifer Hong, M.D.*

#### **SUMMARY:**

Objectives Throughout the course of the COVID-19 pandemic, the United States has undergone drastic changes to its social structure, isolating households countrywide and affecting ones ability to interact with others. These changes have taken place under the protective model of social distancing and quarantining but have led to unintended consequences in alcohol consumption habits. This literature review serves to clarify the overall impact that the pandemic has had on the alcohol consumption for adults in the United States. Methodology A search of PubMed as well as Google Scholar online databases using the phrases "Covid alcohol consumption", "Covid Alcoholism". Of the initial 393 relevant results, we have chosen 10 sources to narrow our discussion to the effects of the pandemic's impact on alcohol consumption in the United States, rather than the world. The purpose of this narrowing of scope was in hopes to provide more accurate and generalizable information for the US population given the wide ranging differences to quarantine protocols being enacted. Results Multiple studies have shown that the overall impact of pandemic increased the propensity for alcohol consumption during the pandemic, particularly during quarantine protocol enacted time frames. While a significant amount of this information was gathered from online surveys,

the information was also corroborated by a noted self-reported increase in overall importance of social support networks. For groups that had social support, such as college students, there was a reduced risk for increased consumption rates of alcohol. It is also of note that one study has suggested a discrepancy of risk pertaining to the gender of the population being studied, with women at a higher risk of increased alcohol consumption. While some variance is described within studies of the multifactorial nature of alcohol consumption, the general trend for alcohol consumption has increased despite the society constraints to consume alcohol have been removed. This is thought to be caused by the tendency to use alcohol, as well as other substances as a coping mechanism for stress. These results appear to remain consistent in that in the early pandemic the rates of alcohol consumption did not appear to significantly increase, rather they increased overtime as the pandemic has continued onward. Conclusion Overall, it appears that the COVID-19 pandemic has had a significant impact on the rates of alcohol consumption among adults in the United States. It appears that the likelihood for increased alcohol consumption is correlated with the overall length of the quarantine time-frame, as well as the perceived social support network of the individual. With this in mind, the question of long-term impact of this increase in alcohol consumption will require further assessment going forward, especially given its correlation with social isolation.

#### **No. 11**

##### **A Meta-Analysis on the Efficacy of Marijuana as a Treatment for Insomnia**

*Poster Presenter: Niharika Padala*

##### **SUMMARY:**

**Background:** Marijuana has long been used as a self-treating modality for health concerns including insomnia, chronic pain, post-traumatic stress disorder, and appetite loss. There's been a correlation seen in the advent of its legalization, where over-the-counter sleep aids sales have decreased with an overwhelming number of positive testimonials to cannabis-treated insomnia. However, marijuana in all its different forms has not been proven to safely treat sleep difficulties. This meta-

analysis aims to review existing clinical trials on cannabis and its effects on sleep. **Methods:** A search for randomized control trials and/or clinical trials characterizing the effects of marijuana or its derivatives on sleep parameters was conducted. Eighty-one studies were selected, 25 of which fit the criteria and were analyzed using a comprehensive meta-analysis program including the variables of marijuana and sleep parameters crossed by demographic variables. **Results:** A subgroup analysis was done on different sleep parameters including sleep quality, sleep duration, sleep onset, sleep disruption, and somnolence. 16 studies suggest improved sleep quality, 3 studies show longer sleep duration, 4 studies show early sleep onset, 4 studies describe fewer sleep disruptions, and 1 study showed increased somnolence. Overall, it appears that marijuana has a positive effect on sleep parameters, particularly subjective sleep quality. Two studies showed equivalent effects compared to placebo while 1 showed that cannabis use actually increased sleep latency. The sum of the studies' participants is 2163. An effect size comparison of the studies was done to ensure that studies with greater power had more weight in the results. **Conclusion:** Studies had conflicting results on the effects of cannabis ingredients. While this meta-analysis examines the variables affecting the outcomes of derivatives of marijuana on sleep parameters, more research is required.

#### **No. 12**

##### **Assessing Use of Non-Benzodiazepine Agents for Alcohol Withdrawal: Improving Care and Resident Education in a Community Hospital Setting**

*Poster Presenter: Siamak Darehbaghi*

*Co-Authors: Joseph Knoble, Benjamin Pierce, Linda Zhang Galicki, M.D., Gerald DeMasters*

##### **SUMMARY:**

Introduction Alcohol detoxification accounts for a significant portion of inpatient health services. Although symptom triggered benzodiazepine (BZ) regimens are considered the "gold standard" for alcohol detoxification, BZ can complicate addiction recovery and fail to provide prophylactic coverage for withdrawal complications. Recent literature has illustrated use of BZ-sparing protocols with



anticonvulsants and  $\alpha_2$ -agonists for management of alcohol withdrawal. However, there are few large scale comparison studies performed against the “gold standard”. This project would evaluate differences between non-benzodiazepine (NBZ) and BZ based protocols. Results from this project will be used to educate residents on alcohol detoxification in our hospital. Ultimately, this will help improve quality of care and resident education in a community setting. Methods Variables of interest were retrospectively collected from the EMR database of patients admitted for alcohol detoxification in HCA hospitals 2019-2020. Primary outcome of reduction in CIWA scores, and secondary measure of rates of transfer to the ICU, ICU length of stay, and 30 day readmission rates were compared between groups: 1. scheduled NBZ, 2. PRN BZ, 3. scheduled BZ, and 4. mix of groups 1+2 (scheduled NBZ and PRN BZ). A mixed effects model was used to evaluate CIWA scores over time. Logistic regression was used to predict transfer to ICU, length of ICU stay and readmission rates. Results There were no significant differences in demographics between groups. Patients in group 4 had the greatest rate of decrease in CIWA score. Patients in groups 2 and 4 were more likely to be transferred to the ICU. There was no significant difference in ICU length of stay or in time to readmission between groups. Group 1 was effective in high CIWA scores. In patients with CIWA scores < 7, those in Group 1 had a greater decrease in rate of CIWA score. Conclusion BZ remain effective in quick reduction of AWS. NBZ are more likely to be used in patients with low CIWA scores. NBZ were noninferior to BZ in measures of transfers to the ICU, length of ICU stay, and time to readmission. Discussion We evaluated the efficacy of NBZ and BZ in alcohol detoxification. Patients in the BZ group experienced faster symptom reduction as measured by rate of decrease in CIWA than those in the NBZ group. However, the average starting CIWA score was lower in the NBZ group, with NBZ used more in cases of mild withdrawal where BZ may not have been prescribed. In these scenarios, NBZ present as a suitable option. The results of our study were incorporated into resident education in the psychiatry GME program. Results of this study may provide insight to readers in other community hospital settings. By improving the quality of care in local communities not served by large academic

centers, providers can improve access to healthcare and additionally improve health equity.

### No. 13

#### **Addressing an Epidemic Through Engagement: Utilization of a Community Asset Map to Discuss Solutions for Opioid Problems in Minority Communities**

*Poster Presenter: Charles Bay*

*Lead Author: Jasmine Chardai Thompson, M.A.*

*Co-Author: Richard Steven Schottenfeld, M.D.*

#### **SUMMARY:**

**Background:** The opioid crisis is affecting the nation’s capital with rapidly increasing overdose rates in predominantly economically disadvantaged, minority communities. In particular, D.C. Wards 7 and 8, are associated with the highest rates of drug overdoses. Medication-assisted treatments (MAT) for opioid use disorders (OUD) are available, however the impact of MAT’s effectiveness is challenged by low utilization rates and poor treatment retention. Preliminary community engagement findings demonstrate that stigma, fear of legal action, institutional mistrust, and lack of knowledge about MAT limit community engagement and worsen OUD disparities. **Methods:** A six-member Community Advisory Board was formed to assist with effective engagement of Ward 7 and 8 residents in OUD treatment and recovery. This Board is part of a multi-stage community-based participatory research process focused on providing feasible and appropriate evidence-based interventions via settings that that resonate with the community needs and comfort. The Board recommended an engagement approach that provided information about the strengths of the community, as a first step toward encouraging participation and creating solutions. A digital map was created, which identified assets located within Wards 7 and 8. These assets were trusted entities with potential to influence discussions about addiction treatment and recovery. Assets were grouped into the following domains: Health & Healthcare, Political & Government, Community Based Organizations, Education, Faith-Based Organizations, Sports & Recreation, Businesses, Other. **Results:** Phase 1 provided 143 assets across 8

categories. **Conclusion:** Tracking assets within Wards 7 and 8 has shifted the initial community engagement process from a “deficit” model (i.e., emphasizing community needs) to an “asset” model (i.e., emphasizing community strengths). A vital component to the community-based process, this map was contributory to project's second stage of needs assessment, which included identifying additional stakeholders and developing language and interview guides for discussing opioid and other drug addictions with the community. The asset map will also be used to plan future engagement activities such as mobile crisis units, pulpit announcements at churches, flyers, and more.

#### **No. 14**

##### **Association Between Fluvoxamine Use and COVID-19 Severity in a Susceptible Patient**

*Poster Presenter: Jaswin Singh*

##### **SUMMARY:**

Introduction Fluvoxamine (FVX) is a selective-serotonin reuptake inhibitor used to treat depression. Research shows that FVX has an attenuating role in the sepsis-induced inflammatory response, thereby reducing the progression of COVID-19 (1,2). This case study describes the clinical course of an individual who, despite several risk factors for severe COVID-19, experienced a mild form of the disease while taking the drug. Case Presentation A 71-year-old patient presented to the ED with heart palpitations and cough for 1 week. Medical history included atrial fibrillation, hypertension, hyperlipidemia, non-alcoholic fatty liver disease, obesity, and depression. The patient had been taking FVX daily for three years, currently at 250 mg. The patient was ultimately admitted for atrial fibrillation with rapid ventricular rate but incidentally tested positive for COVID-19. The patient remained afebrile with an unremarkable pulmonary exam, imaging, and labs. The patient was discharged the next day after resolution of her arrhythmia. Discussion Physiologic stress increases inflammatory cytokine production within the endoplasmic reticulum of cells. The sigma-1 receptor (S1R) is a protein that reduces this response. FVX has been shown to act as an agonist at the S1R. Trials in mice showed that S1R knockout increased

lipopolysaccharide (LPS) induced IL6 and IL1b levels. Overexpression of S1R decreased IL8 levels after LPS stimulation (4). In a randomized clinical trial, out of 115 patients with confirmed COVID-19, clinical deterioration occurred in 0 patients who received 100 mg FVX versus 6 patients treated with 100 mg placebo over 15 days. Clinical deterioration was defined as two criteria that needed to be met - shortness of breath (SOB) with or without hospitalization and oxygen saturation less than 92% on room air (2). These findings were supported in a follow-up study in which patients were given a loading dose then 50 mg twice daily for 14 days (3). This patient presented with several risk factors for severe COVID-19 illness, including age > 65, morbid obesity, hypertension, and liver disease per the CDC (5). Despite these risk factors, the patient experienced a mild form of COVID-19, which highlights the potential protective role of FVX. Larger and more extensive clinical trials need to be performed to assess the effects of FVX in inflammatory diseases.

#### **No. 15**

##### **Lifetime Medication History of Patients With Bipolar Disorder: Is There an Impact of Race?**

*Poster Presenter: Carolina Olmos, M.D.*

*Co-Authors: Sudhakar Selvaraj, M.D., Ph.D., Vineeth John, M.D., M.B.A., Marsal Sanches, M.D., Ph.D., Jair C. Soares, M.D., Ph.D.*

##### **SUMMARY:**

**Background:** Several studies suggest that there are differences in the way diagnoses of affective disorders and schizophrenia are made across different racial groups. In particular, previous research suggests that African American patients are less likely to be diagnosed with bipolar disorder (BD) and more likely to receive a diagnosis of schizophrenia when compared with individuals from other racial groups. Notably, such differences in the diagnoses suggested to contribute to the racial inequalities in the treatment of BD in that there are differences in the lifetime use of mood stabilizers according to race. We assessed the differences in treatment history among outpatients with BD from different racial backgrounds. **Methods:** The sample consisted of 293 outpatients with BD (194 Bipolar I,

77 Bipolar II, and 22 Bipolar NOS). Patients were classified according to race: 200 Caucasians (66 males, 134 females, mean age = 38.71 +- 12.94), 70 Hispanics/Latinos (22 males, 48 females, mean age = 34.83 +- 10.88), and 23 African Americans (10 males, 13 females, mean age = 31.10 +- 8.02). Data about lifetime treatment/medication history was collected retrospectively. The diagnosis of BD and the patient's lifetime history of psychotic symptoms was established by administering the Structured Clinical Interview for DSM-IV (SCID-IV). The statistical analysis was performed using the chi-square test, and a 0.05 significance level was adopted. **Results:** Based on lifetime treatment history, there were no statistically significant differences across groups regarding the use of mood stabilizers (Whites/Caucasians: 61%; Hispanics/Latinos: 57%; African Americans: 61%). Lifetime use of antipsychotics was remarkably higher among African American patients (78%, against 35% of White/Caucasian patients and 45% of Hispanic/Latino patients,  $X^2 = 16.96$ ;  $df=2$ ;  $p<0.05$ ). However, these differences were not related to the presence of psychotic symptoms, as the rates of lifetime psychosis were similar across the three groups (Whites/Caucasians: 27%; Hispanics/Latinos: 30%; African Americans: 30%). **Conclusions:** Our results point to critical differences in antipsychotics medication use/prescription among patients with BD from different racial backgrounds. African American patients showed higher rates of antipsychotic treatment use than the two other groups analyzed despite the similar rates of lifetime psychosis history. These findings raise concerns about possible influences of the racial/ethnic background on the decision-making process during the treatment of patients with BD. **Key words:** bipolar disorder, health/racial disparities, antipsychotics, mood stabilizers

#### No. 16

#### **"She's Possessed!" Barriers to Mental Health Care in the Bangladeshi Immigrant Community**

*Poster Presenter: Fariha Hossain, M.D.*

*Co-Author: Armani Khan*

#### **SUMMARY:**

Intro: There is a large Bangladeshi immigrant community residing in Queens, NY. There are aspects of Bangladeshi culture, history, and religion that uniquely impact their mental health and access to care. As the community grows, we at Jamaica Hospital in Queens are uniquely aware of the lack of literature informing providers regarding the evaluation and management of mental health challenges faced by this community. From our experience serving the mental health needs of this community, it is evident that religion and culture are closely intertwined. According to one study, higher religious and cultural beliefs, higher societal stigma, and lower familiarity with professional mental health services were associated with greater rejection attitudes toward professional mental healthcare in Muslim women. In our practice, we have noted strong societal stigma towards receiving mental health care in the Bengali community. This is partly due to a commonly held belief among some Muslims about supernatural causes of mental illness resulting in a preference for religious treatments over psychiatric care. A study showed that while cognitive behavioral therapy did help South Asian women's symptoms, patients felt forced to deny their culture in order to receive psychosocial therapy. This can negatively affect the patient-provider relationship. Case Report: We present the case of a 26-year-old Bengali American female with a history of Bipolar disorder with psychotic features, 8 weeks pregnant, who was brought to the Jamaica Hospital ER by her family for bizarre behavior and insomnia for 5 days. Patient was seen rocking back and forth and actively hallucinating. She was mute, disorganized, catatonic, requiring admission to the inpatient unit. Patient was mistrustful of staff, accusing them of being devil worshippers, at times becoming violent and combative. She needed to be medicated several times with STAT IM Haldol and Benadryl. Patient and husband refused treatments that are safe during pregnancy. Approximately 10 days after the onset of symptoms she started to sleep well and became more linear, able to hold a conversation, no longer suspicious about the staff. She recalled a very traumatic experience during her first psychotic episode of being unwillingly tied to her bed while a religious figure performed an exorcism. Ms. A continued to refuse treatment and was discharged in

stable condition. She followed up twice with her outpatient psychiatrist where she continued to report doing well without any psychotropic medications. Conclusion: This case report shows the importance of considering both religious and cultural beliefs when treating psychosis in Bangladeshi patients. In cases with religious preoccupation, it behooves the doctors to work alongside religious professionals to help the patient understand their condition and provide greater insight. Cultural competency and empathy can help strengthen the relationship between doctor and patient.

#### **No. 17**

##### **Evaluating the Efficacy of Opioid Receptor Antagonists as an Adjunct for Bipolar Disorder: A Systematic Review**

*Poster Presenter: Daniel Lee*

*Co-Author: Samantha Kamp, M.D.*

##### **SUMMARY:**

**Background:** The neurobiology of bipolar disorder (BP) remains largely nebulous. Prior reports have noted that opioid analgesics may precipitate hypomanic or manic episodes in patients with or without BP, suggesting an intrinsic relationship between the endogenous opioid system and mood regulation.<sup>1</sup> If efficacious for BP, opioid receptor antagonists (ORAs) may be a uniquely favorable adjunct given their metabolic effects and high rates of concomitant substance use disorder (SUD) in patients with BP.<sup>2</sup> The objective of this review is to assess the therapeutic efficacy of ORAs as an adjunct therapy in BP. **Methods:** The online databases PubMed, Embase, Web of Science and an external search engine were used to identify studies published from 01/01/2000 to 07/11/2021. The search strategy contained terms for centrally acting ORAs including nalmefene, naloxone, naltrexone, and samidorphan; buprenorphine was also included based on a previous meta-analysis.<sup>3</sup> Other keywords included derivatives of the terms “opioid receptors,” “adjunct therapy,” and “bipolar disorder.” To be eligible for this review, studies had to be in the English language, be clinical research with BP patients included, and provide an analysis of ORAs’ effect in BP. Articles were excluded from this review if the articles were abstracts or case reports, did not

specify a BP diagnosis, failed to provide analysis specific for BP subjects, or if the study medication was not a known ORA. **Results:** The online databases and external search engine were searched on 07/11/2021 and resulted in a total of 2,804 records. After duplicate records were removed and records were screened against the inclusion and exclusion criteria, 4 articles were eligible for this review: 3 randomized controlled trials (RCT) and 1 open label pilot study.<sup>4-7</sup> From the 4 studies, diagnoses of BP1, BP2, and BP not specified were represented, and the interventions were adjunct naltrexone (n=3) or buprenorphine (n=1). Of note, 2 studies were conducted by the same lead author and examined the efficacy of naltrexone in patients with BP and concomitant alcohol dependency. All of the trials had <50 subjects analyzed, and mood outcomes were most commonly quantified with various scales including the YMRS, BPRS, MADRS, and HRSD. The 3 RCTs that studied buprenorphine or naltrexone did not find any significant differences in mood scales between the intervention or control groups; however, 1 pilot study found significant reductions in HRSD and YMRS scores with naltrexone at 16 weeks compared to baseline. **Conclusions:** This review found no strong evidence that supports the efficacy of ORAs as an adjunct in BP at currently used doses. Some considerations when evaluating the findings of this review is that this search does not capture earlier studies or assess the effects of distinct mechanisms and affinities of available ORAs. Despite this, there is paucity of literature in this clinical domain and further research is warranted.

#### **No. 18**

##### **Too Much Too Little Too Late: Chronic Hypercalcemia and Sudden Antidepressant Withdrawal as Risk Factors for Late Onset Mania**

*Poster Presenter: Lymaries Velez, M.D.*

*Co-Author: Laura M. Rodriguez-Roman, M.D.*

##### **SUMMARY:**

Ms. T is a 58-year-old Caucasian female with reported history of depression who presented under involuntary hold to the inpatient psychiatric hospital for flight of ideas, pressured speech, hyperreligiosity, disorganized thought, and active responses to internal stimuli. The patient's husband reported that

this was the first time the patient had exhibited these symptoms. He provided collateral stating that for two weeks prior, the patient had not been sleeping, was rolling in the grass, had increased talkativeness, was talking to God, and was hearing voices. Prior to her admission to the psychiatric hospital, she had been admitted and medically worked up at an outside hospital. Per records from the outside hospital, CT head without contrast showed no acute or other detectable abnormalities. CT abdomen and pelvis without contrast showed nonobstructing stones in the right kidney and adenomas of both adrenal glands. Urine drug screen was positive for cannabis, urinalysis was positive for amorphous crystals, and lumbar puncture was unremarkable for infectious or inflammatory process. Calcium level was elevated to 11.3 and PTH of 94, and her husband confirmed that hypercalcemia was a chronic issue for which the patient had never received treatment. Additionally, her citalopram had been reduced from 40 mg to 20 mg daily about two weeks prior. The patient was started on risperidone 0.5 mg at bedtime. However, due to decreased need for sleep of two to three hours a night, patient was switched to olanzapine 10 mg with lorazepam 2 mg at bedtime. Her initial hyperactivity, impulsivity, and pressured speech resolved first while her looseness of associations required several more days to resolve. Patient was discharged with psychiatric follow up and recommendation to pursue outpatient endocrinology follow up. Although late onset bipolar disorder is possible, the patient had never had an episode like this in the past, which makes ruling out alternative causes such as medical comorbidities and iatrogenic causes imperative. She was admitted due to concern for mania secondary to chronic mild hypercalcemia versus abrupt SSRI dose decrease, both of which are rare causes<sup>1-3</sup>. A thorough medical workup, history taking, and collaboration with other medical specialties such as endocrinology could have helped clarify potential factors that could have contributed to this patient's presentation<sup>1,3</sup>. Without a holistic approach, a patient's manic symptoms may remain refractory to antipsychotic treatment since the underlying cause may be left unaddressed. In this poster, we discuss the laboratory algorithm for assessing hypercalcemia as well as abrupt SSRI dose

decreases or discontinuation as risk factors for late onset mania.

#### **No. 19**

#### **Thyroid Trouble: Catatonia, Delirium, and Severely Elevated TSH**

*Poster Presenter: Steven Toffel, M.D.*

*Co-Authors: Lymaries Velez, M.D., Sheryl Fleisch*

#### **SUMMARY:**

Ms. D was a 79-year-old female with history of hypothyroidism and pancreatic cancer status post Whipple four months prior to admission. She had a post-operative course complicated by multiple readmissions for intraabdominal abscesses necessitating JP drains three times for uncontrolled output from a pancreatic fistula and sepsis. During the current admission, psychiatry was consulted for concern for factitious disorder and depression. On encounter, patient was found to be nonresponsive with exam findings including reduced wakefulness, inability to follow commands, rigidity, waxy flexibility, mutism, negativism, stupor, bilateral lower extremity edema, and absent deep tendon reflexes as well as vital sign instability such as hypotension and tachycardia. These findings raised concern for malignant catatonia and potentially concomitant delirium, as EEG exhibited diffuse background slowing as well. Upon chart review, her TSH was found to be elevated to 5.305 about three weeks prior. A repeat TSH was obtained, which resulted at 286 and a repeat of 692. Due to patient's frailty, a low dose benzodiazepine challenge of lorazepam 0.5mg three times daily was recommended, with minimal benefit. Additionally, endocrinology recommended levothyroxine 50mcg daily, and three days of methylprednisolone 1000mg daily was started. These interventions also had minimal benefit. Psychiatry planned for emergent electroconvulsive therapy. Unfortunately, the patient experienced multi-organ failure and ultimately expired. The aberrant lab results, exam findings, worsening mental status, declining alertness, and multi-organ failure raised concerns for catatonia and/or delirium secondary to hypothyroidism, myxedema coma, or Hashimoto's encephalopathy. The goal of this poster is to highlight the importance of working with our

endocrinology colleagues and identifying thyroid disease as not only a cause of depression and anxiety but also as a potential cause of catatonia, severe altered mental status, multi-organ failure, and death.

#### **No. 20**

##### **Cyclical Depression Improvement in Neurosarcoidosis Patient Treated With Infliximab**

*Poster Presenter: Emily Leilani Cooper, M.D.*

*Co-Author: Pilar Lachhwani, M.D.*

#### **SUMMARY:**

The role of inflammation has been increasingly recognized as playing a role in depression, and neuroimmunologic treatments have been increasingly studied in depressed patients (Roman 2020.) Depression is common in patients with neurosarcoidosis, with prevalence around 60% (Chang 2001.) Neurosarcoidosis patients frequently receive treatment with immunologic therapy, including infliximab, a TNF alpha monoclonal antibody (Dutra 2011.) It is not known whether immunologic therapy improves depressive symptoms in patients with neurosarcoidosis. A 48-year-old Caucasian male with PMH of neurosarcoidosis, CAD s/p PCI, GERD, HTN, IBS and OSA was admitted for worsening dyspnea and fatigue for three weeks, suspicious for sarcoidosis flare. Psychiatry was consulted for worsening depression. He endorsed depressed mood, avolition, low energy, anhedonia, hyperphagia, and anhedonia worse for the past two weeks prior to hospitalization. Interestingly, he suspected a relationship between infliximab and his mood. He stated that his mood cyclically improved immediately following infliximab treatments then would progressively worsen throughout the month until his next treatment. He had been on monthly treatment with infliximab for neurosarcoidosis for three years. His most recent CRP from a year prior was 5 mg/L. This case supports previous findings that infliximab improves depressive symptoms in patients with elevated baseline CRP. It adds an important observation that patients' depressive symptoms may vary in response to timing of infliximab treatment, with wane in benefit as time goes on, and may reinforce that infliximab treatment needs to be

continuous to have benefit. Studies are needed to identify whether patients with neurosarcoidosis and concomitant depression may have benefit in their depressive symptoms from infliximab treatment, and the magnitude of the improvement.

#### **No. 21**

##### **Phenibut Withdrawal Successfully Treated With Baclofen**

*Poster Presenter: Ashley L. VanHaverbeck, D.O.*

*Co-Author: Brian Lu*

#### **SUMMARY:**

M.M. is a 37-year-old male with a history of post-traumatic stress disorder who presents to the hospital with altered mental status. Approximately two days prior to presentation, the patient was noted by family to be acting bizarrely, appearing agitated and experiencing auditory hallucinations. The psychiatry team was subsequently consulted for psychosis. The patient's family reported no history of psychotic episodes or similar behaviors in the past. Additionally, following this change in behavior, the patient also began exhibiting new abnormal movements, with constant, diffuse, arrhythmic twitching of variable frequency and severity in his arms, legs, trunk, and face. The initial medical work-up was largely unremarkable. However, several days into his hospital course the patient admitted to the chronic use of multiple illicit substances, including Phenibut. This then raised suspicion for a withdrawal syndrome. Given this admission of substance use, the primary team felt it was more likely that the patient was experiencing an alcohol withdrawal, due to similarities in symptoms and familiarity with the treatment of alcohol withdrawal. The patient was then treated with a large number of benzodiazepines. Despite this, he continued to clinically decompensate and was transferred to the critical care floor. The psychiatric consultation-liaison team recommended the use of Baclofen for the treatment of Phenibut withdrawal. Within 90 minutes of Baclofen administration, there was a significant improvement in agitation and abnormal movements. The patient was then started on a long-term Baclofen taper, which resulted in rapid improvement of mentation and no further evidence of psychosis or abnormal movements. In this poster,

we discuss several interesting points raised by this case, including the stigma and assumed dishonesty in those with an admission of substance use disorder, raising awareness for Phenibut withdrawal, and stressing the importance of an in depth understanding of pharmacology by a consulting psychiatrist.

## **No. 22**

### **Insomnia, anxiety, or atypical autoimmune encephalopathy?**

*Poster Presenter: Gurmehr Kaur, M.D.*

*Co-Author: Amanda Cattelino*

#### **SUMMARY:**

Anti-IgLON5 disease is a rare autoimmune disorder, with a reported prevalence of 8 in 100,000, characterized by sleep disturbances, non REM parasomnias, disordered breathing, and gait instability. First reported in 2014, it classically presents with sleep disturbance, gait abnormalities and dysautonomia. We present an atypical case of a 55 year old caucasian male veteran with a two year history of anxiety and insomnia who presented to the VA collaborative care clinic for follow up. The patient's presentation was complicated by Vitamin B12 deficiency, substantial caffeine use, and poor sleep hygiene. Buspirone and trazodone were started with limited beneficial effects. Despite regular therapy follow up, lifestyle changes, and vitamin repletion, the patient's anxiety and insomnia persisted. Collateral obtained from the patient's sister showed that the patient had significantly abnormal behaviors when sleeping -- talking and sleepwalking without memories of these events. The patient's sister also reported that he would become confused and distractible at times, responding to internal stimuli, but was able to continue working for some time. The patient was referred to sleep medicine for a sleep study and to neurology for further workup. The sleep study was limited due to difficulty with the patient having consistent sleep. The MRI brain was negative, but CSF studies showed antibodies against IgLON5. The patient was treated with IVIG with some reduction in hallucinations and insomnia, though symptoms did not completely resolve. The cases in the literature typically present initially with sleep problems, gait

abnormalities, bulbar dysfunction, chorea and cognitive decline. Although neuropsychiatric symptoms have been reported, these are not the typical presenting symptoms. Laboratory findings are significant for antibodies against IgLON5. Neuropathology of this disease on autopsy show neuronal loss and deposits of hyperphosphorylated tau involving the tegmentum of the brainstem and hypothalamus. Presentations of anti-IgLON5 disease may be more variable than previously described, which is consistent with non-uniform presentation of encephalopathies. Anti-IgLON5 disease should be considered in the differential diagnosis of atypical presentations of psychiatric illnesses with comorbid sleep disturbance. This case serves as a reminder that clinicians should be mindful of alternate etiologies for insomnia and anxiety.

## **No. 23**

### **Why Are You Eating Your Feces? Exploring the Motivation of a Selectively Mute Man**

*Poster Presenter: Michael Donath*

*Co-Author: Maria Mariano*

#### **SUMMARY:**

Coprophagia (the act of eating feces) may be an uncommon occurrence in general, however, in our field of psychiatry (and depending on the setting we practice in) many providers have treated patients who present with coprophagic behavior. Grossly described as an uncontrollable consumption of defecated byproducts, coprophagia is often shocking to medical providers, ancillary staff and patient's loved ones. Mostly studied in canine populations in the veterinary field, there is limited published literature in humans, apart from a scarcity of individual case reports. For many reasons, coprophagia is dangerous and can lead to serious adverse medical outcomes including recurrent bacterial or parasitic infections, nutritional deficiencies, and even death. The underlying motivation for coprophagia can be from a variety of factors (neurocognitive disorders, psychosis, obsessive compulsive disorder, complicated trauma response, malnutrition, pica, neurologic etc.) and often cases are confounded with multiple unanswerable questions. As a result, it is important to do a thorough evaluation in patients partaking in

coprophagia, especially in our most vulnerable patient populations. We present a case of a patient who experienced multiple social and environmental barriers to obtaining appropriate care. Mr. G is an older adult man with approximately 5 years of limited education who immigrated to the US and became homeless with limited access to nutritious food and no social support. He was brought to the hospital because of concerns about his inability to care for himself due to psychotic symptoms, coprophagic behavior, and worsening osteomyelitis. We will discuss some of the barriers faced in his care and the role that our psychiatry Consultation Liaison team played in optimizing his psychotropic regimen, as well as, an overview of our approach in treating his coprophagic behaviors.

#### **No. 24**

##### **Ipilimumab Induced-Hypophysitis With Subsequent Encephalitis in a Patient With Cholangiocarcinoma: A Case Report**

*Poster Presenter: Omar Munoz, M.D.*

*Co-Authors: Edmi Cortes Torres, Javier Galnares-Olalde*

#### **SUMMARY:**

Mr. T., a 65-year-old Latinx male with no past psychiatric history and recently diagnosed cholangiocarcinoma, presented to the psychiatric consult service with recent onset of altered mental status and symptoms of mania. The patient had been initially treated for cholangiocarcinoma with gemcitabine, cisplatin and paclitaxel but due to high tumor burden he was started on palliative immunotherapy with intravenous Ipilimumab/Nivolumab. After 1 month of treatment, the patient presented to the emergency department with severe fatigue, nausea, hypotension, and poor appetite. A thorough medical workup revealed low levels of the hormones produced by the pituitary (adrenocorticotropic hormone [ACTH], TSH, follicle-stimulating hormone [FSH], luteinizing hormone [LH], growth hormone [GH], prolactin). The patient was diagnosed with hypophysitis secondary to treatment with checkpoint inhibitors. The patient was then treated with high dose of glucocorticoids. Two days after initiating treatment with steroids, psychiatry was consulted because the patient

became confused and was loud, talkative and difficult to interrupt. On evaluation, patient was alert and oriented to person and partially to time. He believed that he was in a different country. He had difficulties shifting and maintaining attention, which was an acute change from baseline. He displayed elevated mood, pressured speech, flight of ideas, inflated self-esteem and appeared restless. Patient was sleeping 2-3 hours per night and reported feeling well rested. Nivolumab was discontinued and patient was started on risperidone. Patient exhibited gradual resolution of symptoms after implementation of measures. Checkpoint inhibitors (ex. Ipilimumab, nivolumab) that are used to enhance the immune system have been associated with multiple side effects, including hypophysitis and encephalitis. In this poster, we discuss the challenges of treating the psychiatric complications of treating a patient who developed delirium and manic symptoms after treatment of hypophysitis with high dose steroids

#### **No. 25**

##### **Characterizing Adverse Childhood Events (ACEs) and Psychiatric Comorbidities in Children and Adolescents Experiencing Homelessness**

*Poster Presenter: Jeremy Weleff, D.O.*

*Co-Authors: Eric Pan, Jessica Liu, Spencer Seballos, Michael Phelan*

#### **SUMMARY:**

Background: Adverse childhood events (ACEs) and trauma create lasting effects on the mental and physical health of individuals. Characteristically, high rates of ACEs has been shown to be linked to higher rates of alcoholism, drug abuse, depression, sexually transmitted infections (STIs), and suicide attempts. Youth experiencing homelessness and housing instability are a particularly vulnerable population that typically face great levels adversity. This population has yet to have been characterized in detail. The present study seeks to investigate the prevalence of ACEs and psychiatric comorbidities recorded in the electronic health record (EHR) in a large cohort of children and adolescents experiencing homelessness and housing instability. Methods: All patients under 18 years old experiencing homelessness/housing instability that



presented to the emergency department (ED) of a large health system between the years 2014-2020 were included. Homelessness was determined by address field or ICD-10 code (Z59.0). Demographics were extracted from the EHR, while variables concerning psychiatric history, family psychiatric history, and ACEs were extracted by chart review. ICD-10 codes for ACEs included: physical abuse (T76.12), sexual abuse (T76.22), emotional abuse (T76.32), neglect (T76.02), absence of relative (Z63.32), unspecified child maltreatment (T74.92) and parental divorce (Z63.5). Results: 1001 children and adolescents experiencing homelessness and housing instability were identified. This cohort was predominantly male (513, 51.2%), and Black (576, 57.5%), with a mean age at ED presentation of 7.74 years (SD ± 5.22). 298 (29.8%) had ACEs coded or identified in chart review. Of those patients, the documentation rates for common ACEs were: runaway or previous foster child (233, 78.2%), physical abuse (41, 13.8%), sexual abuse (36, 12.1%), neglect (28, 9.4%), emotional abuse (5, 1.7%), absence of relative (35, 11.7%), and inter-parental violence (10, 3.4%). 98 (9.8%) had recorded family histories of psychiatric illness of which the most common was SUDs (58, 59.2%). 119 (11.9%) had clear documentation county/DCSF involvement. Of those with recorded psychiatric conditions (272, 27%), the most common were depression (93, 34.2%), suicidal ideation (77, 28.3%), anxiety (61, 22.4%), post-traumatic stress disorder (PTSD) (55, 20.2%), bipolar disorder (14, 5.1%), psychoses/schizophrenia (14, 5.1%), and substance use disorders (SUDs) (8, 2.9%). Of those with recorded medical conditions (138, 13.8%), the most common were asthma (112, 81.2%) and STIs (13, 9.4%). Conclusion: Children experiencing homelessness and housing instability that present to health systems have high rates of documented ACEs and psychiatric comorbidities. In line with retrospective studies done in adults, youth with documented ACEs appear to have high rates of suicidal ideation and STIs.

## No. 26

### Rehospitalization Rates for Children and Adolescents Offered Intensive Outpatient Program in a Northern California Health Care System

Poster Presenter: Sharon Houk-Syau

Co-Author: Yazeed Ibrahim, D.O., M.S.

#### SUMMARY:

Background: Psychiatric re-hospitalizations for children and adolescents are more likely than readmissions for non-mental health reasons (1). They are also costly (2) and debilitating, often affecting quality of life (1). Prior work has found that a large percentage of readmissions occur within 90 days of discharge from inpatient care (2). Thus, most patients are connected with close outpatient follow-up (3), including referrals to step-down or intensive outpatient programs after an inpatient admission to achieve further stabilization. Objectives: To determine whether attendance and or completion of Kaiser Permanente San Jose's Intensive Outpatient Program (IOP) affects rehospitalizations in the 3-month period after hospital discharge. Methods: In this study, we reviewed pediatric psychiatric hospitalizations and discharges in the year 2020 in the Kaiser Permanente San Jose (KPSJ) catchment area. Two of those discharged were excluded from analysis due to incomplete information. Those not referred to IOP—due to primary psychotic disorder, substance use disorder, or need for dialectical behavioral therapy—or those referred to other IOP programs were excluded from analysis. Out of those who were referred to the KPSJ IOP, information on date of discharge from hospital, IOP attendance, IOP graduation, and date(s) of rehospitalization were collected. Lastly, we calculated the proportion of readmissions three months after initial hospital discharge amongst three groups: those who declined IOP treatment all together, IOP graduates, and IOP attendees who did not graduate. Results: From the 144 discharges included in analysis, 93 were offered IOP at KPSJR, while 22 were offered IOP at other locations. From those offered IOP, 77 started the program, while 16 declined. 37 successfully completed IOP and graduated the program. Out of those who declined IOP, 4 were readmitted during the first 90 days after hospital discharge (25%). Out of those who graduated IOP, only 3 were readmitted in the 90 days post-discharge (8.1%). Out of those who attended, but did not complete IOP, 13 were rehospitalized during the high-risk period (32.5%). Interestingly, 11 of these 13 were in IOP at the time of rehospitalization (84.6%). Conclusions: Based on these data, it appears that patients who complete

IOP are not re-hospitalized as often during first 90 days after discharge. However, attending but not completing IOP is not superior to declining IOP all together: rates of hospitalization were 32.5% and 25% respectively. It may be that those who complete IOP are different from those who decline or do not complete the program. Further clarifying differences in diagnosis, symptom severity (potentially measured by length of hospital stay), or demographics would further elucidate the effectiveness of IOP in preventing readmissions in the first 3 months after hospital discharge.

#### **No. 27**

##### **Pilot Study: Confiscation of an Electronic Device and Pediatric Psychiatric Emergency Room Visits**

*Poster Presenter: Taylor Ryan Dodds, M.D.*

*Co-Authors: Samrat Ashok, D.O., Lily T. Yang, D.O., Katherine Pulham, M.S.*

#### **SUMMARY:**

**Background:** As the rates of electronic device usage amongst pediatric patients have risen, pediatric mental health emergency room visits have also increased. The 2019 Common Sense Census Report found that by age 12, 69% of children own a smartphone<sup>3</sup>. This pilot study evaluated if there is a correlation between the confiscation of a child or adolescent's cellphone/tablet and psychiatric emergency visits. **Methods:** A retrospective review of 458 electronic charts was conducted on children ages 5-17 who presented to the emergency room at two rural hospitals, St. Joseph's Hospital and Arnot Ogden Medical Center in upstate New York between January 2018 and January 2021 for a mental health evaluation. Demographic information was collected about the patient (including age, gender, and ethnicity), along with the patient's diagnoses, disposition, and whether or not the patient had an electronic device confiscated. **Results:** The data analysis indicated that no demographic or diagnosis variables had a statistically significant effect on the probability of the patient having their device confiscated. Patients were primarily Caucasian (83%, n=380), with more females (56%, n=257) than males (44%, n= 201). The study found that none of the demographic variables or the diagnosis variables had a statistically significant effect on the log-odds of the

patient having their device confiscated. The diagnosis of Autism had the biggest negative effect on the log-odds (confiscation less probable than base case) and the diagnosis of Bipolar had the biggest positive effect on the log-odds (confiscation more probable than base case). Anxiety disorders had the lowest p-value (unadjusted, p=0.24717). Though not statistically significant due to the small sample size of other ethnic groups, it is worth noting that Caucasian patients were more likely than African American/Black patients to have their devices taken. **Conclusion:** Ongoing study of these correlations with larger patient populations may provide insight on the management and psychoeducation provided in such cases of pediatric mental health emergencies related to the confiscation of electronic devices.

#### **No. 28**

##### **The Impact of COVID-19 Homeschooling on the Mental Health of Children and Adolescents**

*Poster Presenter: Salman Ladha, B.A.*

#### **SUMMARY:**

The COVID-19 pandemic has led to many children and adolescents continuing their education with homeschooling and other distance education measures. This has led to prolonged periods of social isolation and consequences on the mental and physical wellbeing during critical periods of social development for people in this age group. Schools and educational institutions are means by which many receive mental health services, and with the closure of these institutions, many children, particularly minorities and underprivileged do not have adequate access to mental health services. With lack in access to these services, studies have found that there has been an increase in prevalence of anxiety disorders, major depressive disorders, suicidality, eating disorders, among other psychiatric conditions in the pediatric population during the COVID-19 pandemic. This is further exacerbated by the increase in fear of family members becoming severely ill with COVID-19, the fear of children themselves becoming ill, and economic instability due to parental job losses. We herein present a literature review to discussing these psychosocial

impacts of the COVID-19 pandemic on children and adolescents.

#### **No. 29**

##### **Limitations of Virtual Assessment in Child and Adolescent Psychiatry**

*Poster Presenter: Jessie E. Margolis, M.D.*

*Co-Authors: Steven Alec Zane, Malini Singh, D.O., Lawrence Suess, D.O., Ph.D.*

##### **SUMMARY:**

**Introduction** Telepsychiatry is being increasingly implemented for mental healthcare delivery due to physical distancing guidelines related to the COVID-19 pandemic. These services present an alternative option for evaluating populations who would not otherwise have access to mental healthcare. However, some aspects of the mental status evaluation do not completely translate to observation in the virtual setting; in some cases, this may result in incomplete or inaccurate evaluations that delay care. This case report of delayed identification of an emerging psychotic disorder in an adolescent highlights deficiencies in assessment that occur when observation is limited to solely what is visualized on-screen via video-conference. **Case Description** “G”, a fourteen year-old Asian male, was brought by his parents to an intensive adolescent outpatient program due to substantial weight loss, dysphoric mood, and delusional thinking. The patient’s family reported an insidious decrease in function over fifteen months, which was compounded by isolation due to COVID-19 public health mandates. “G” became withdrawn and aggressive, and restricted his dietary intake due to food-related delusions, resulting in clinically concerning weight loss. His participation in video-conferencing, both in class and therapy, failed to accurately reflect his emaciated state because he always wore an oversized, hooded jacket that obscured much of his body and face. “G” presented to the emergency room after physically attacking his father; he was placed on a 72-hour hold and released after a single virtual mental health encounter, which similarly limited observation of concerning appearance and behavior. Six months later, he re-presented following another episode of violent behavior; this time he was admitted to an in-

patient psychiatric unit. He was fully assessed in person, which revealed psychotic behaviors and his emaciated, unkempt, and malodorous state, informing a prompt diagnosis of a prodromal thought disorder. The patient rapidly improved with treatment with an antipsychotic and antidepressant. **Discussion** Virtual observation limits the ability of educators, therapists and physicians to visualize body language, weight, and non-verbal expression and interaction of children and adolescents, thus hindering early identification of psychiatric disorders. In this case, the unintended consequence of attending school and mental health appointments in the virtual setting was a false sense of security that a patient was mentally stable when he was in fact decompensating, which delayed initiation of appropriate treatment.

#### **No. 30**

##### **Lessons Learned From a Retrospective Study on an Adolescent Med-Psych Inpatient Unit**

*Poster Presenter: Christa Joelle Maria Belgrave, M.D., M.P.H.*

##### **SUMMARY:**

**Objectives:** Prior to our initial study, there were no studies that addressed the rate of adolescent twin admissions on inpatient Integrated Care Units (iICUs), known as medical/psych units. Our initial study examined whether the rate of admissions of twins to an iICU at Hasbro Children’s Hospital (HCH) is higher than the rate of twin births in the general population during those years. We then explored characteristics of twin admissions to discern commonalities. **Methods:** Our team conducted a retrospective chart review study of admissions on the iICU from 03/2015 to 08/01/2019 at HCH. All admissions to the unit during this period were examined. During our initial analysis, we compared rates of twin births during our study period in the United States from 2015-2019. Twin admissions were identified and characteristics explored during initial study. Chi square analysis was utilized to compare rates of twins admitted to rates of non-twin births. During the second phase of this study, we compared the rate of twin births during each of the correlating birth years as well as the average rate of twin births during the correlating age

ranges admitted to the Hasbro Children's Hospital iICU. Results: There were 1603 total admissions of 1293 patients during our study period (total includes readmissions). Of these total admissions, there were 74 twin total admissions and 59 unique twin patients. The rate of twins on the iICU was 4.56% during our study period. Chi square analysis remained significant at  $P < 0.05$  when comparing twin birth rates for correlating birth years as well as averaging the rates of those years. Conclusions: There is a higher rate of twin admissions to the iICU at Hasbro Children's Hospital than would be expected based on the rate of twins in the general United States Population during the correlating birth years. Future studies with comparison of twins to non-twin peers are needed to further elucidate trends.

**No. 31**  
**Narcissistic Personality Disorder and Pseudologia Fantastica in a 15-Year-Old Boy: A Diagnostic and Etiologic Conundrum**

*Poster Presenter: Thejasvi Narayana Lingamchetty, M.D.*

*Co-Author: Ramnarine Boodoo, M.D.*

**SUMMARY:**

L is a 15 year old male with a history of ADHD combined presentation, GAD, ODD and narcissistic personality disorder. He presented to our clinic for disruptive behavior, including impulsive violence, threatening suicide and homicide, and manipulating family members. His biological parents separated in 2014, which was quite difficult for him. He has lived with paternal grandparents and biological father since then. Mother was neglectful. Biological father is emotionally distant. L was severely bullied at school, both verbally and physically. In his early teens L began referring to himself as a herpetologist. Over time his grandiose statements increased, with the addition of being a martial arts master and a skilled archer. There is no apparent purpose to these assertions but his affect brightens noticeably when these are described. When others challenge these assertions, L applies ever more detail to convince a listener of their validity. He has never had a manic or hypomanic episode, and has never had other characteristics of psychosis. He has never met

criteria for conduct disorder. L is currently being treated with methylphenidate, fluoxetine and buspirone, after numerous failed trials of other psychopharmacologic agents. Prior psychotherapy was ineffective. The degree of his symptoms has decreased, but their character has remained fairly stable. Pseudologia fantastica (PF), also referred to as mythomania and pathological lying, is an understudied, fascinating and poorly understood entity, defined as disproportionate falsification which is extensive, complicated and presents over years.<sup>1</sup> Key characteristics include – chronic lying/story telling that is unrelated to or out of proportion to any clear objective benefit; the stories are dramatic, complicated and colorful; typically featuring the pseudologue as hero or victim; seem geared to achieve acceptance, admiration and sympathy; in terms of insight, the pseudologue lies somewhere along a spectrum between conscious deceit and delusion.<sup>3</sup> L also meets DSM 5 criteria for narcissistic personality disorder (NPD) – exaggerating his achievements, requiring excessive admiration, believing he is special and unique, struggling with empathy, exploiting family members and displaying arrogant behavior.<sup>4</sup> In this poster we discuss someone with a complex presentation of both NPD and PF, both likely related to adverse childhood experiences. Newer theories explaining childhood narcissism posit its cultivation by parental overvaluation and excessive praise. Older, more psychoanalytically-oriented, theories emphasize its development due to lack of parental warmth.<sup>2</sup> Our patient's history is more consistent with the psychoanalytic position. We suggest that NPD and PF may be considered responses to adverse childhood experiences, along with diagnoses like PTSD, RAD and DSED.

**No. 32**  
**Tapping Into Salience Networks: Can We Improve Outcomes of Depression or Anxiety in the Elderly?**

*Poster Presenter: Avneesh Sachdev*

*Co-Author: Shabbir Amanullah, M.D., D.P.M.*

**SUMMARY:**

**Aims and Objectives:** To study the role of salience networks in predicting and improving outcomes in geriatric patients suffering from depression or

anxiety. The objective of this literature review will be to look at synthesizing current knowledge on the role of the salience network in depression and anxiety to see if we can use salience networks to improve outcomes in depression and anxiety.

**Background:** Aging is characterized by a decline in specific cognitive processes and aberrations in neural networks. Such alterations are purported to play a role in the development of depression and anxiety (Pannekoek et al., 2015). Emerging literature suggests alterations in the default mode network (DMN) and salience network (SN) as key contributors to cognitive decline, as well as depression and anxiety in the elderly. Understanding the basis of such changes in these neural pathways may allow for targeted therapy to reduce the prevalence of depressive and anxious disorders and improve outcomes. **Methods:** A search for articles relevant to salience networks, depression or anxiety, elderly, and improved outcomes was performed on the MEDLINE, CINAHL, and APA PsychInfo databases. Papers written in English reporting on resting state functional connectivity of the SN in depression or anxiety disorders were included. Additionally, articles reporting on SN-targeted treatments for depression or anxiety that compared the intervention to control groups and articles reporting on predicting anti-depressant or anti-anxiolytic treatment response based on SN properties were also included. Articles were excluded if the article was not focused on the SN or if the article was not focused on depression, anxiety, or comorbid anxiety and depression. **Results:** Research focusing on tapping into the SN of elderly is scarce. Further, inconsistencies exist in current literature regarding the neuroanatomical changes associated with depression and anxiety. However, a common theme of aberrant connectivity between the neural networks has been identified. As such, SN connectivity has become a prominent target for the treatment of depression and anxiety. Potential targeted interventions to improve outcomes in patients include Serious games, Ketamine, Oxytocin, Mindfulness-based Cognitive Therapy (MBCT), and Emotion Regulation Therapy (ERT). **Conclusions:** While current research is not conclusive, there are pointers towards a potential role in using salience networks to maximize improvements in anxiety and depression. Further research is necessary, and many

areas need to be studied to gain a better understanding of the role of the SN in depression and anxiety, as well as how we may target these areas to improve outcomes, especially within the geriatric population.

### No. 33

#### **Stop Repeating History: Breaking the Cycle Through Implementation of a Longitudinal Anti-Racism Curriculum for Psychiatry Residents**

*Poster Presenter: Martina Santarsieri, M.D.*

*Co-Authors: Lauren Azalea Hanna, M.D., John Young, Arya Soman*

#### **SUMMARY:**

Introduction: There has been a growing recognition of the “social determinants of health,” including race, as a key determinant of health outcomes, yet this language often serves to euphemize and de-emphasize the root cause of inequity -- racism. By not acting to eliminate racism, medical institutions can end up reinforcing the systemic racist structures which perpetuate injustice and inequity. It is therefore our professional and ethical responsibility as clinicians to recognize and dismantle structurally racist systems. While this need to address racism in medical training has been recognized, there are few examples of formal didactic curricula in the literature. During the 2021-22 academic year, a longitudinal 4-year anti-racism curriculum was developed and integrated into the Zucker Hillside Hospital Psychiatry Residency required didactic curriculum. **Methods:** After extensive literature review and consultation, key themes were identified, and a curriculum was created consisting of two sessions per year with a particular content focus during each year: (1) RECOGNIZING the historical context of racism in the US, in medicine, and in psychiatry, (2) REFLECTING on providers’ own power, privilege and biases, (3) EQUIPPING trainees with tools to talk about race and challenge racism in clinical care, and (4) EMPOWERING clinicians to become advocates of social justice. Quantitative and qualitative data was collected before and after each session using participant surveys. **Results:** After the sessions, 92% of residents agreed that learning about these topics was an important component of their residency training. Residents’ comfort in

discussing these topics increased by 27% after the sessions. Resident feedback primarily centered around the need for greater time to discuss these topics and a desire to address the racial dynamics within the residency class itself. Discussion: This curriculum serves as an example of a successful model that residency programs nationwide may adapt and customize. Further work is needed to learn whether curricula such as these lead to measurable changes in clinical care and improvement in patient outcomes.

#### **No. 34**

##### **Irritability in Adolescents**

*Poster Presenter: Chloe Yeung*

*Co-Authors: Ellen Leibenluft, Joel Johnson*

##### **SUMMARY:**

One important subdomain of emotional dysregulation is irritability, which can be defined as propensity to anger and is operationalized within a spectrum from normative to clinically impairing. The proposed review will elucidate the course of irritability through adolescence with a focus on aspects that inform pathophysiology of clinically significant irritability. An integrative model will be proposed for clinicians to consider when evaluating risk factors and shifts in normative and pathologic irritability. We conducted searches in Pubmed and Web of Science on 03/25/21 using the following terms: (Irritability OR Anger) AND (adolescent development OR (human development AND adolescence)). Inclusion criteria are peer-reviewed, original reports of irritability (or trait anger) as a primary and/or secondary measurement. They are of longitudinal studies with adolescents in the observational period or cross-sectional studies comparing adolescents against a different-aged group. The search returned eight hundred eighty-eight unique articles, with 590 published in the last 10 years. A preliminary abstraction of 92 reports published in the past year resulted in 35 that met inclusion criteria. Sixteen were psychological in nature, relying solely on measures or interviews of internal experience. Ten assessed physiologic correlates, with four of those involving neural measures. Nine assessed social associations: forensic, peer, or family functioning. Twenty of the

studies had a relevant indicator clinically significant irritability, such as clinical irritability, an irritability-related disorder, or contained sufficient numbers to identify aberrant irritability. A growing body of clinically-relevant work informs changes in irritability during adolescence and differences in irritability between adolescents and other age groups.

#### **No. 35**

##### **Nebraska Grows More Than Just Corn: How We Have Increased the Production of Psychiatrists**

*Poster Presenter: Tony Le*

*Co-Author: Marley Ann Doyle, M.D.*

##### **SUMMARY:**

Behavioral health issues are highly prevalent in the United States. According to the latest national survey in 2019, approximately 51.5 million adults (20.6%, age 18 years and older) had any mental illness (AMI) in the U.S., and an estimated 9.5 million adults (3.8%) had both AMI and at least one substance use disorder. The U.S. has a widespread shortage of behavioral health providers. According to the Health Resources and Services Administration (HSRA) projections, by 2030, there may be a 20% decrease in the number of adult psychiatrists and 3% increase in demand for their services. Like many other rural states, Nebraska has faced a severe shortage of behavioral health providers. According to the most recently available data on the behavioral health workforce, 88 of Nebraska's 93 counties were designated as federal behavioral health professional shortage areas (HPSAs) in 2021. Nebraska covers an area of 77,348 square miles, is home to 1.9 million people, and is mostly rural. Of the 93 counties, 48 counties are classified as rural and 31 as frontier (having fewer than residents per square mile). Specifically, there is a behavioral workforce disparity within rural areas – for example, in rural Nebraska there are only 2.7 psychiatrists per 100,000 residents compared to 11.3 psychiatrist per 100,000 residents in urban communities (US average 127 per 100,000). To address this workforce shortage, the Nebraska Legislature passed LB 603 in 2009 and created the Behavioral Health Education Center of Nebraska (BHECN; Nebraska Revised Statute § 71-830), BHECN's purpose is to recruit, retain and increase competency of the state's licensed behavioral

health workforce. To identify workforce needs, BHECN conducts a biannual workforce analysis based on licensure and survey data. In Nebraska's urban counties, during the period 2010-2020, the overall number of psychiatrists increased by 15.4%. In rural counties, however, the number of psychiatrists decreased by 57%. The aging behavioral health workforce is an issue in Nebraska and in the US overall. In 2020, 66% of the psychiatrists in Nebraska were older than 45 years of age, with the highest percentage (27%) of psychiatrists being in the age group 36-45. Unlike many other state's Nebraska has increased its number of psychiatrists since BHECN was founded in 2010. However, the workforce is aging a disparity in rural areas remains. To address this, BHECN has developed and financially supported rural psychiatry residency rotations, behavioral health training for primary care providers, telehealth opportunities for psychiatry residents, as well as free live and virtual continuing education and networking opportunities for current psychiatrists practicing in rural areas. Future directions include plans for residency expansion, fellowship opportunities and further development of student pathway opportunities and scholarships.

#### **No. 36**

##### **Health Disparities in African American Patients With Severe Mental Illness Are Due to Racism**

*Poster Presenter: Nicholas Alloy Apping, M.D.*

*Co-Authors: Uzoamaka Asonye, M.D., Dennis Popeo, M.D., M.Sc., Leonardo Lopez, M.D.*

#### **SUMMARY:**

**Introduction:** Black patients with Severe Mental Illness (SMI) experience health disparities when compared to white patients. We will discuss the literature that characterizes these racial disparities, and explore the role that implicit bias, racism and racialization play in sustaining the disparity in mental health care. **Methods:** Literature review was conducted through PubMed, Psycinfo and Google Scholar using keywords "Serious Mental illness", "Schizophrenia", "(racial or ethnic) disparities", "assertive community treatment", "long acting injectables", "Antipsychotics", "Electroconvulsive therapy", "functional outcomes", "Barriers to access", "racism in psychiatry". **Results:** Health

disparities span the full spectrum of American psychiatric care - including differences in the availability of culturally appropriate, affordable care; a disproportionate diagnosis of psychotic illnesses; differential and inequitable access to certain medications and treatments; and a decreased likelihood of being referred to higher quality evidence-based aftercare programming.

**Conclusion/discussion:** These disparities are not due to Black people being "sicker", but instead are due to implicit bias and structural racism. Although Psychiatry has historically participated in the perpetuation of such racial disparities, we are uniquely positioned within healthcare to discuss and rectify this through a conscious anti-racism approach.

#### **No. 37**

##### **The Impact of COVID-19 on Racial and Ethnic Disparities in Follow-Up After Inpatient Psychiatric Hospitalization**

*Poster Presenter: Kei Okochi*

*Co-Authors: Timothy Michaels, John Kane, Eun Ji Kim*

#### **SUMMARY:**

**Background:** Prior research has found racial disparities in post-discharge follow-up at outpatient appointments after inpatient psychiatric hospitalizations; Black race is associated with lower rates of attendance at first outpatient appointment. The COVID-19 pandemic has led to disproportionately worse mental health outcomes, including increased substance use and suicide risk among minority racial/ethnic groups in the U.S. The objectives of our study are to compare racial disparities in post-hospitalization follow-up rates before and during the COVID-19 pandemic and identify factors associated with outpatient follow-up after psychiatric hospitalization. **Methods:** Records from a large inpatient psychiatric hospital in NYC were retrospectively reviewed for adult patients (age 18-65), discharged between July 2019-September 2019 (n=839), and July 2020-September 2020 (n=739), before and during the COVID-19 pandemic, respectively. Demographic and clinical characteristics were examined, and univariate and multivariate analyses were performed to identify associations with linkage to initial outpatient mental

health appointment after discharge. **Results:** Overall, approximately 74% of all patients who were given outpatient mental health appointments at discharge, attended their initial follow-up appointment. Pre-pandemic linkage rates were 86% (242/281) in White, 76% (93/122) in multiracial, 76% (65/86) in Asian, 66% (169/257) in Black, and 67% (4/6) in Hispanic individuals. Linkage rates during the pandemic were 76% (205/270) in White, 72% (90/124) in multiracial, 70% (51/73) in Asian, 68% (141/207) in Black, and 92% (12/13) in Hispanic individuals. In univariate analysis, male sex, substance use disorder, type of insurance, and discharge against medical advice were associated with linkage (p values < 0.01). In multivariable logistic regression models, controlling for sex, substance use, insurance types, and discharge against medical advice, Asian (OR= 0.40 [-0.02 – 0.89]) and multiracial (OR = 0.41 [0.02-0.80]) individuals were less likely to link compared to White individuals. Discharge during the COVID-19 pandemic was not significantly associated with linkage rates. **Conclusions:** Certain racial/ethnic minority groups are less likely to follow up with outpatient care after discharge from inpatient psychiatric hospitalization. Being discharged during the COVID-19 pandemic was not significantly associated with decreased linkage rates. While linkage to follow-up care is complex and associated with multiple factors, there remains a need for quality improvement interventions targeting vulnerable populations during this vital transition.

#### **No. 38**

##### **Racism as a Deterrent to Treatment for Black Patients With Opioid Use Disorder**

*Poster Presenter: Patricia Anne Arnold, M.D.*

*Lead Author: Ayana Jordan, M.D., Ph.D.*

*Co-Authors: Megan Deaner, Julie E. Teater, M.D., Orman Trent Hall*

#### **SUMMARY:**

Introduction: Experiences of racism in the medical setting are common among Black patients and may be linked to disparate outcomes. However, little is known about the prevalence of experiences of racial discrimination by healthcare workers among Black patients seeking opioid addiction treatment, or how

these experiences might influence Black patients' expectations of care. **Methods:** Participants are Black adults (n=104) recruited consecutively from two university addiction treatment facilities in Columbus, Ohio. All participants completed validated surveys assessing perceptions of prior racial discrimination in the medical setting. Participants were also asked a series of questions about their expectations of care regarding racial discrimination and addiction treatment. Descriptive analyses were used to characterize sample demographics, perceived racial discrimination and expectations of care. Spearman's correlations assessed relationships between racial discrimination and expectations of care. **Results:** Seventy-seven percent (n = 80) of participants reported prior experiences of racial discrimination during healthcare. Racial discrimination in the medical setting was associated with worse expectations regarding racial discrimination in addiction treatment including delays in care seeking due to concern for discrimination, projected non-adherence and fears of discrimination-precipitated relapse. **Conclusions:** Black patients seeking opioid addiction treatment reported experiencing racial discrimination by healthcare workers which may be associated with expectations of further discriminatory treatment when seeking opioid addiction treatment. Strategies to eliminate and mitigate experiences of racial discrimination may improve opioid addiction treatment receptivity and engagement.

#### **No. 39**

##### **Assessing Racial Trauma in Psychiatric Interviews; a QI Project**

*Poster Presenter: Jeena April Kar, D.O.*

*Co-Authors: George Raineri, M.D., Kelvin Tran, M.D., Lily Valad, M.D., Dylan Ong, M.D.*

#### **SUMMARY:**

Introduction: With the rising social unrest following recent events of racial discrimination and police brutality, it is increasingly important for clinicians to screen patients for racial trauma in a trauma-informed manner. However, conversations about race are often avoided by clinicians as they can be uncomfortable (Williams, 2018). There is increasing interest in modifying the psychiatric interview to



include questions that assess for racial trauma as it has been found to be associated with psychopathology (Chou, 2012). Methods: 36 residents participated in pre- and post-lecture survey consisting of 7 questions; 5 with standardized 5-point Likert scale questions regarding familiarity with the concept of racial trauma, comfort asking patients questions about racial trauma, how often residents ask patients about racial trauma, the degree to which residents believe asking these questions can build rapport, and comfort level with the DSM-5 Cultural Formulation Interview (CFI). Results: Most residents were either “Somewhat” or “Not so Familiar” with the concept of racial trauma (95%) with most “Rarely” or “Never” asking their patients about such trauma (85%). Majority of respondents felt “Little” or “Moderate” levels of comfort discussing racial trauma (86%), despite acknowledging such conversations would help build patient rapport (67%). Finally, it should be noted that resident respondents were unfamiliar or completely unaware of the CFI (76%) with most citing time constraints as the primary roadblock to incorporating such dialogue in patient interviews (76%). Following the CFI lecture, 15 residents had notable increases in racial trauma awareness (100%) and Cultural Formulation Interview familiarity (80%). Additionally, most residents cited increased comfortability discussing the topic of racial trauma with their patients (87%) and were more likely to incorporate such dialogue in their interviews (53%). Finally, every resident who completed the post-lecture survey (100%) indicated that discussing racial trauma with their patients would help build rapport. Conclusions: The results of our study show that a significant number of psychiatric residents/trainees do not ask about racial discrimination during psychiatric interview. With Questions 1-4 and Question 6, the results show some demonstrable change with intervention. Residents feel limited in asking about racial trauma first and foremost due to time constraints. However, a startling number of residents, nearly 40%, felt that they were limited because they **didn't know how** to ask, and nearly 15% were simply **uncomfortable with asking**. Although racial trauma itself may not meet the DSM criteria for PTSD, the trauma related disturbances can still be distressing for patients with such experiences. These discussions with patients foster a

therapeutic clinical environment allowing for a more comprehensive psychiatric assessment and timely provision of intervention and support.

#### **No. 40**

#### **Combating Anti-Black Racism in Real Time: An Anti-Racist Curriculum Enhanced by Patient Simulation**

*Poster Presenter: Amanda Joy Calhoun, M.D., M.P.H.*

*Co-Author: Andres Martin, M.D., M.P.H.*

#### **SUMMARY:**

Several curricula exist to combat racism in the medical system, but there are few published curricula focusing on resident medical education, in psychiatry and beyond. Existing curricula often focus on implicit bias, thereby centering the individual committing harms and their intentions, rather than the impact of their racist behaviors on the people targeted. Additionally, most curricula focus on racism towards people of color, even though people of color have different experiences of racism which necessitate different targeted approaches. While current curricula may provide important frameworks and educational content for conceptualizing racism, learners may struggle to combat racism in real-time clinical situations. The aim of this research study was to a) implement a trainee-led curriculum that addresses the impact of anti-Black racism on Black psychiatry trainees in the context of patient care and attending supervision, and b) provide real time visual solutions for navigating anti-Black racism clinical settings, for both psychiatry trainees and supervisors. The curriculum used video simulations of racist clinical scenarios in psychiatry using the concept of co-constructive patient simulation. The curriculum was implemented in five sessions with groups of 8-10 clinicians. The results of our study were qualitatively analyzed with common themes arising including: the power of anti-racist terminology, the importance of attendings modeling anti-racism in patient encounters, the ‘minority tax’ that Black attendings and residents experience, and the necessity of institutional backing during racist patient encounters, among many others. These findings can be useful when implementing wider-scale curricula aiming to train psychiatrists in real time anti-racist skills.

**No. 41****Racial/Ethnic Disparities in Decisional Capacity Consults**

*Poster Presenter: William Garrett*

*Co-Authors: Omar Mirza, Anita Verma, M.D., Daniel Thomas, M.D.*

**SUMMARY:**

Background: As the field of psychiatry begins to reflect more upon racial/ethnic disparities in mental health care, a dearth of information exists regarding these inequities in the assessment of patients' decisional capacity. Such assessments, while intended in theory to protect patient interest, also inherently challenge patient autonomy, thus requiring careful consideration of current approaches to capacity evaluation. Objective: This study aimed to examine potential disparities and/or bias in the placement and outcomes of decisional capacity evaluations across race, controlling for additional patient factors. Methods: 181 patient capacity consults requested of the psychiatry consultation-liaison service at an academic tertiary care medical center over a 2-year period (2018-2019) were reviewed. The racial distribution of these consults was compared to the distribution of 60,707 comparable hospital inpatient admissions over the same time. Multiple patient outcomes were analyzed using logistic regression that factored in race, gender, age, education, insurance status, type of capacity assessment, and primary psychiatric diagnosis. Results: Capacity consults were placed disproportionately on Black patients (42.6% of consults vs 17.8% of total admissions) and Hispanic patients (26.1% of consults vs 20.5% of admissions) compared to White and Asian patients. The capacity evaluation was deferred or cancelled in 51 patient cases (28% of total sample) at a similar rate between racial groups. Among the remaining 130 patients with a capacity determination, 95 patients (52% of total sample) were determined not to have capacity, an outcome that did not differ by race but occurred with greater odds among patients diagnosed with delirium. Sixty-seven patients with no capacity (37% of total sample) experienced a resultant change in hospital treatment, an outcome with lower odds among Hispanic patients; this finding was not statistically significant when controlling for lower educational status. Conclusion: Significant racial

disparities were observed at the point of initially placing a capacity consult. While there were no statistically significant racial differences in the outcomes of these consults, certain subpopulations appeared less likely to experience a meaningful change in treatment from the capacity assessment compared to others. These findings may bring to light both the potential harms and biases introduced with both the initial challenge to a patient's capacity as well as the subsequent outcomes of the consult, and thus the potential balance of risk vs. benefit, or utility, of these consults in certain populations.

**No. 42****Inconsistencies in Documentation for a Transgender Patient Secondary to Electronic Medical Record User Interface: A Case Report**

*Poster Presenter: Emma Banasiak*

**SUMMARY:**

Mr X., a 19-year-old female-to-male (FtM) transgender patient with a past psychiatric history of ADHD, Bipolar I disorder, and borderline personality disorder, was committed to an inpatient psychiatric unit for suicidal ideation after presenting to the emergency department for a self-inflicted laceration requiring sutures. Mr. X's electronic medical record (EMR) listed the gender as "male," however, the patient's listed legal name was a common female name. The patient's "preferred name" and pronouns were listed in the EMR but could only be viewed when the patient's chart was open. The documentation for this patient was inconsistent with some notes referring to the patient with male pronouns, some notes with female pronouns, and other notes using both. While most notes mentioned that the patient was biologically female, one note stated "19 y.o. male" while later mentioning a pregnancy test. The note failed to mention that the patient was biologically female. The inconsistencies in the EMR caused confusion with members of the clinical team and resulted in multiple clinicians misgendering the patient in documentation during rounds, and encounters with the patient. Unfortunately, these inconsistencies in documentation could be perceived by the patient as insensitivity to their gender identity (1). Transgender and gender diverse patients face many barriers to

care such as lack of culturally competent care, including inconsistent use of chosen name and pronouns, and lack of knowledgeable providers (2,3,4). Not all instances of misgendering are purposeful. A clinician, who assumes that a patient's birth sex and gender identity are congruent, could misgender their patient if the EMR shows a singular marker for sex and gender (5). Although Mr X's EMR had gender and sex correctly populated, these fields were not clearly labeled. The only marker seen on the chart was "male." A clinician would need to open the chart and go to the demographics tab if they wanted to see this patient's biological sex. This additional step was a contributing factor to the inconsistencies in gender pronoun usage in documentation and interactions with Mr. X. More so, the advent of increased patient access to EMRs means that, after the patient were to be discharged, they could read the documentation that misgenders them and this could create hesitancy to seek healthcare in the future. While EMRs are incredible tools and have the potential to aid in providing culturally competent care, this case shows the ways in which they introduce barriers to care to gender diverse individuals.

#### **No. 43**

##### **Asian American Youth and Mental Health Stigma, a Synthesis of Current Literature**

*Poster Presenter: Pauline Chen, M.D.*

*Co-Author: Maham Ahmed*

#### **SUMMARY:**

Introduction: With the COVID-19 pandemic unveiling underlying anti-Asian racism, it has become crucial to address mental health concerns in Asian Americans. Early studies show that the rise in anti-Asian sentiments has resulted in increased anxiety, depression, and sleep issues in this population (Abrams, 2021). Asian-Americans are three times less likely to seek psychiatric help (Spencer, 2010). From 2008-2012, Asian Americans had the lowest percentage of any mental health service use (4.9%), prescription psychiatric medication use (3.1%), and outpatient mental health service use (2.5%) (SAMHSA, 2015). Methods: A robust search of PubMed, the Cochrane Database, PsycNET, Google Scholar, and MEDLINE were conducted for studies

between January 2007- July 2019. The initial search retrieved 673 papers. The authors applied predetermined inclusion/exclusion criteria, and numbers of papers for inclusion were then reduced to 12. Results: There is a religious component underlying "mental health hesitancy" in Asian Americans. It may be considered sinful to choose a physician or counselor for help over religion as the first place of guidance. (Amari, 2012) This can be seen both in Chinese Americans looking to the Bible for emotional help, and in South Asian Americans where having a mental health concern is viewed as a direct result of straying off the path of God. Religious/spiritual advisors are viewed as key sources to receive mental health treatment for Asian Americans with mental disorders (John 2013). An additional theme involving concepts of maintaining family honor can be found in the literature. These shame-focused attitudes are a major barrier in AA getting help (Gilbert, 2007). The external community also frames AA as a "model minority", creating additional pressure for people to conceal any psychiatric conditions (Lee, 2009). Asian American Youth also compare themselves to refugees and asylum seekers within their community. They then may feel guilt sharing mental health concerns "knowing their relatives faced something "more" stressful just to survive." (Tanap, 2019). Although they perceive their lives to be better off, they too carry the burden of intergenerational trauma (Bith-Melander, 2017). Conclusion: The reasons for decreased help-seeking in AA youth are vast, multifactorial and complex. However, after review of current literature, reasons can be categorized into three themes involving religious conservatism, issues surrounding family dynamics including honor and shame, and generational trauma. There is a lack of culturally relevant approaches to treatment (Clay, 2017) to address the above themes. Future directions could include researching proposed solutions that are rooted in addressing the above three themes.

#### **No. 44**

##### **Utilizing the Diagnosis of Neurasthenia in an Elderly Cantonese-Speaking Patient With Resistance to the Diagnosis of Depression**

*Poster Presenter: Alexandra Geoca*

Co-Authors: Mariame Shaw, Jacqueline Posada, Zeina Saliba

#### SUMMARY:

Ms. B, an 81-year-old exclusively Cantonese-speaking woman with a psychiatric history of depression, was admitted to the psychiatry floor from the medicine floor for suicidal ideation, full body pain with noncontributory medical workup, significant fatigue, insomnia, poor appetite, anxiety and restlessness for two weeks. On evaluation, the patient met criteria for major depressive disorder (MDD) and post-traumatic stress disorder (PTSD). However, given her cultural identity and lived experiences, her presentation was better understood and communicated through the lens of a culture-bound syndrome called neurasthenia which was historically diagnosed in the context of political unrest and severe stigma surrounding mental illness. Neurasthenia is described in WHO's ICD-10 as meeting two criteria including (1) persistent and distressing complaints of increased fatigue after mental effort, or persistent and distressing complaints of bodily weakness and exhaustion after minimal effort, (2) two of the following: muscular aches and pains, dizziness, tension headaches, sleep disturbance, inability to relax, irritability, dyspepsia and any autonomic or depressive symptoms present are not sufficiently persistent and severe to fulfil the criteria for any of the more specific disorders in this classification. Although the neurasthenia diagnosis was removed from the DSM in 1980 it appears in the DSM 4 in the appendix under "glossary of culture-bound syndromes" and in the DSM5 under "Glossary of Cultural Concepts of Distress." Considering mental health and physical health as two separate entities is not consistent with the cultural concept of monism which views the body as a whole. In utilizing the diagnosis of neurasthenia, the psychiatrists who treated Ms. B strengthened patient rapport and cooperation with treatment, including her family. Additionally, utilizing this cultural diagnosis led to the addition of certain treatments including tiger balm, increased family visits, and homemade Chinese food to improve

poor oral intake, and facilitate a quicker discharge than usual as being home with family helped normalize her diagnosis. In this case, while these treatment additions did not directly cure the patient's neurasthenia, they improved the quality of her treatment by focusing on her cultural norms, nutrition, and pain, which had been unresponsive to analgesics. In this poster, we discuss the importance of cross-cultural formulation of pain and depression and its usefulness for improving patient rapport, communication of illness/treatment plan, treatment approach and obtaining collaboration from patients.

#### No. 45 WITHDRAWN

#### No. 46 A Study of the Safety and Psychiatric Effects of the COVID-19 Vaccine on Patients With Psychiatric Disorders

Poster Presenter: Blake Lackey  
Co-Authors: Roja Manohar, M.D., Hanjing Wu, M.D., Ph.D., Emily Shen, Jeff Wang Jin

#### SUMMARY:

**Background:** Today, the COVID-19 pandemic remains a global healthcare focus. The emergency use of the Pfizer-BioNTech, Moderna, and Johnson & Johnson vaccines by the Food and Drug Administration began in late 2020<sup>1,2</sup>. While there was a global public concern for vaccine safety, the safety and efficacy of these vaccines has been proven over time<sup>3,4</sup>. Importantly additional concern was placed on vaccine safety in vulnerable and marginalized populations, including patients with comorbid conditions. Furthermore, persons with severe mental illness have been included in this "higher risk" category due to increased risks for COVID-19 consequences (infections, hospitalizations, morbidity, and mortality)<sup>6,7</sup>. Given these concerns, the question must be posed: what are the neuropsychiatric effects of COVID-19 vaccines in patients with severe mental illness? To better

categorize these effects, we aim to further understand the local, systemic, and psychiatric reactivity of COVID-19 vaccinations in patients with severe mental illness. **Methods:** From April 15<sup>th</sup> to July 28<sup>th</sup> in the year 2021, 46 patients with psychiatric illnesses were screened for COVID-19 vaccine side effects. The survey was administered as part of clinical care 24-72 hours after patients receive COVID-19 vaccine. Of this population, 39.1% were female, 38.2% were African American, 35.6% were Hispanic/Latino, and 6.6% were over the age of 55. **Results:** Systemic and local reactivity - i.e. side effects including fatigue, fever, pain, and swelling- of the patients mirrored results already found in previous studies<sup>8</sup>. Nearly 30% of the participants reported psychiatric reactivity. Symptoms that were screened for included -sleep changes (35.71%), agitation (28.57%), confusion (21.43%), and anxiety (14.29%). Participants from the 36- to 45-year-old group were most likely to experience psychiatric symptoms (46.2%). The 26- to 35-year-old (26.3%) and 46- to 55-year-old (20%) groups also reported psychiatric sequelae; however, none of the other ages groups endorsed psychiatric symptoms. Furthermore, psychiatric side effects were more commonly reported in the non-Hispanic/non-Latino (31%) and Caucasian (33.3%) groups when compared to the Hispanic/Latino (25%) and African American (15.4%) groups, respectively. Contrary to previous categories of systemic and local reactivity, the female (55.6%) group was more likely to experience psychiatric symptoms compared to the male (14.3%) group. **Conclusion:** Due to the increased risk for COVID-19 morbidity and mortality, persons with severe mental illness should be a point of concern for future pandemic management. As the prevalence of vaccine-resistant strains increases, further need arises to ensure the safety of these vulnerable populations from the pandemic and vaccine-induced sequelae<sup>9</sup>. Further investigation is needed to better understand the management of populations with severe mental illness amidst the current pandemic.

#### No. 47

#### **Criminogenic Thinking and Adverse Childhood Experiences in Individual With Serious Mental Illness**

*Poster Presenter: Luca Pauselli, M.D.*

*Co-Author: Adria Zern, M.P.H.*

#### **SUMMARY:**

**Background:** Individuals with serious mental illnesses (SMI) are over-represented in the criminal justice system. One factor that impacts likelihood of incarceration is criminal thinking, and the Criminal Sentiments Scale – Modified (CSS-M) has been shown to predict criminal justice recidivism. However, studies have not yet examined the CSS-M in outpatients with SMI, and little is known about what predicts high CSS-M scores in this population. **Methods:** Data for the current analysis comes from a sample of individuals with SMI receiving services from outpatient mental health clinics, who have a history of arrest within the five years prior to enrollment into a randomized, controlled trial. The CSS-M was verbally administered to participants during a baseline assessment. The sample included 1,234 individuals, 52.6% male, mean age of  $37.7 \pm 10.7$ , with 62.2% identifying as Black and 32.7% as White. All individuals had a diagnosis of a mood disorder (807, 65.5%) or a psychotic disorder (425, 34.5%). We explored the impact of sociodemographic factors (age, gender, and race), psychopathology (diagnostic category), and adverse childhood experiences (ACE score) on CSS-M scores using bivariate tests and multiple linear regression models. **Results:** The average total CSS-M score was  $32.7 \pm 15.0$ . No statistically significant difference in CSS-M score was found based on gender. CSS-M score was inversely correlated with age ( $r = -0.19$ ,  $p < 0.001$ ) and directly correlated with the ACE score ( $r = 0.15$ ,  $p < 0.001$ ). Black individuals scored higher ( $34.2 \pm 14.9$ ) than White participants ( $29.3 \pm 14.8$ ,  $p < 0.001$ ). Individuals with psychotic disorders had lower scores ( $30.9 \pm 15.0$ ) than those with mood disorders ( $33.6 \pm 15.0$ ). The multiple linear regression model accounted for 10.4% of the variability in total CSS-M score ( $p < 0.001$ ) with all independent variables being significant predictors. **Discussion:** Younger age, male sex, identifying as Black, having a mood disorder as opposed to a psychotic disorder, and higher ACE scores significantly predicted higher CSS-M scores. In our sample, sociodemographic aspects and early trauma are associated with more criminogenic thinking in individuals with SMI. As CSS-M scores have been shown to predict recidivism, it is critical to further understand the foundation of

these negative attitudes towards the criminal justice system to prevent the continued over-representation of those with serious mental illnesses in the criminal justice system. Ongoing work is suggesting that CSS-M scores might also be driven by prior adverse experiences during police encounters, court appearances, and detentions.

**No. 48**

**Manic Money: Financial Health in Bipolar Disorder**

*Poster Presenter: Nina Bihani, M.D.*

**SUMMARY:**

Financial conservatorship has recently become a germane topic in popular culture with news reports of the ongoing legal battle between pop icon Britney Spears and her father, Jamie Spears, who was appointed as her conservator in 2008. There was a recent digital movement, known as #FreeBritney, aimed at removing her conservatorship. Further, the trial of her conservatorship was reported on and followed widely. The determination of financial capacity and the need for financial conservatorship frequently falls under the purview of psychiatry. Financial capacity involves proficiency in handling one's own financial affairs, including the ability to handle the arithmetic involved in financial matters, as well as having reasonable judgement regarding the use of funds. Legally, financial capacity is generally associated with the management of an estate and is often involved in determining ability to sign contracts, wills, and testaments. However, clinically, it involves determining the impact of medical and psychiatric conditions that can impact cognition. Determination of financial capacity generally arises in situations involving cognitive impairment and is often first noted by family members of aging patients who are struggling with arithmetic and logistics of paying bills. This case involves a patient who was found to not have financial capacity due to persistent manic symptoms that prevented him from making sound financial decisions, rather than cognitive dysfunction. Mr. T is a 56-year-old Caucasian man with a longstanding history of bipolar 1 disorder, severe, with psychotic features. He presented to a VA hospital after being petitioned by police for yelling that he was stabbed outside a food pantry. The patient presented as

grandiose, hypervocal, and labile. He exhibited psychotic features such as intractable delusions centering around get-rich-quick moneymaking schemes and global philanthropy efforts. This was his third inpatient psychiatric hospitalization in three months. During the course of his admission, it became clear that despite a considerable monthly military pension benefit, the patient was behind on his rent and in debt. The patient had fallen prey to several internet scams, which fed into his pre-existing grandiosity and fueled his delusions. He even claimed to believe he was communicating with Facebook CEO Mark Zuckerberg, who would be sending him a large sum of money. He also held a sustained belief that he was singlehandedly caring for the financial needs of 100 orphans in Africa. Because the patient showed appropriate decision-making capacity, in other domains of his life (such as healthcare and housing) the primary team chose to pursue emergency financial conservatorship rather than guardianship. This case is unique because it highlights ethical dilemmas that can occur when balancing beneficence and autonomy in patient care.

**No. 49**

**Social Determinants of Health in Urban**

**Transgender Patients**

*Poster Presenter: Isaac Kim, M.D.*

*Co-Authors: Irina Kogan, M.D., Ph.D., Heela Azizi, M.B.A., M.H.A., Tasmia Sara Khan, Ravindi Gunasekara*

**SUMMARY:**

The World Health Organization defines the social determinants of health as the non-medical factors that influence health outcomes. Examples of social determinants of health include: income, education, employment, housing, access to healthcare and social inclusion. We argue that these social determinants are even more important in influencing health and when these factors negatively influence mental health. Transgender or gender nonconforming individuals face housing inequalities, financial insecurities, social discrimination and poor access to health care. Recent studies have shown SDH plays a major role in factors that contribute to psychiatric disorders. We present a 20 year old transgender female with a past psychiatric history of

mood disorder who was brought into the psychiatric emergency department due to suicidal ideation and intent with plan. Since moving from her home, the patient has been unemployed, living in shelter systems, discontinued her college education and has had inconsistent access to healthcare. This case report illustrates how SDH can negatively affect mental health, specifically when poor access to healthcare, unemployment, unstable housing and social discrimination are reported. A brief overview of how transgenders living in urban areas deal with these social determinants and how psychiatric disorders arise or are exacerbated will be discussed.

#### **No. 50**

##### **Barriers for a Trans Masculine Non-Binary Patient Seeking Inpatient Mental Health Care**

*Poster Presenter: Jerica Gerena, D.O.*

*Co-Author: Christine Marchionni, M.D.*

#### **SUMMARY:**

A 41 year old trans masculine non-binary individual who uses pronouns she/her with past psychiatric history of bi-polar do; depressed type, borderline personality disorder and PTSD presents to the emergency room with suicidal thoughts and a plan to overdose on her psychiatric medications. After evaluation it was determined that the pt met criteria for inpatient psychiatric admission and signed herself in voluntarily. Due to patients gender identity it was difficult to find placement for this patient as she required a single room. Further complicating the bed search was the patient's daily use of gender affirming devices that included a penis prosthetic and female urination device. Although there were rooms available for this patient, health unit managers informed us that her gender affirming devices would not be allowed on the unit. Unit managers claimed that these devices were dangerous, but were unable to provide any supporting evidence to this claim. As a result, she would not be accepted onto a unit unless she agreed to cease use of her gender affirming devices while receiving inpatient treatment. In this poster we will further examine this situation and discuss how lack of formal training in LGBT+ healthcare, specifically trans-non-binary healthcare, for hospital staff can lead to negative encounters for these patients. We

will also review current literature to explore and define common gender identities.

#### **No. 51**

##### **Locked in Place: Unspecified Psychosis With Catatonia in the Setting of Parkinson's Disease Being Considered for Deep-Brain Stimulation**

*Poster Presenter: Hajira Chaudhry, M.D.*

#### **SUMMARY:**

Background: Catatonia per DSM-5 requires 3 or more psychomotor disturbances that can overlap with Parkinson's disease. We are presenting a rare case of catatonia in the setting of Parkinson's disease and consideration of deep-brain stimulation. Methods: We used search engines Pubmed, Scopus, and Web of Science using the key words and search strategy {(catatonia+ Parkinson's disease), (psychosis+ Parkinson's disease), (deep brain stimulation + Parkinson's disease + catatonia) (catatonia + deep brain stimulation) (carbidopa-levodopa + catatonia) } Only 3 case reports and 1 case series of catatonia in the setting of Parkinson's Disease were found. One case report was after deep brain stimulation was treated with olanzapine and lorazepam. Case/ Results: A 64-year-old female, with history of psychosis unspecified prior to Parkinson's disease, arrived via ambulance after her husband called 911 for altered mentation. The patient was discharged from a psychiatric hospital 5 days prior after 6-week hospitalization for possible psychosis without any psychiatric medications. Busch-Francis score was 11 to 13, but was confounded by her not receiving her Parkinson's medications while in the ED. She was given 1 mg of lorazepam. Within 30 minutes she was able to move her jaw, sit up with less assistance, had a decrease in her constant movement, was less rigid, was able to converse, and was able to eat. She initially requested to leave, but after explaining the risks of catatonia with no psychiatric providers she was agreeable for a psychiatric admission. 1mg of lorazepam BID which was transitioned to clonazepam 1mg BID. Her lurasidone 20mg BID, duloxetine 60mg daily, and 2 capsules QID of her carbidopa-levodopa 48.75-195 mg were restarted after confirmation. She had gradual worsening of gait, dyskinesias, hypophonia, and increase in hallucinations since 2011. Per

neurology, there were no declines in cognition, but per family the patient's memory had been weaning over the last 2 years. Deep-brain stimulation was being considered. Outpatient neurology follow-up was recommended. Discussion/Conclusion: There is very limited data or protocols for the management of catatonia in the setting of Parkinson's disease. A history of catatonia does not appear to be a contraindication to deep brain stimulation, though one case report had catatonia develop after deep brain stimulation. The risks and benefits of surgical intervention, worsening psychosis with medication, and the patient's overall quality should be weighed prior to any intervention. This case adds to the limited knowledge of catatonia management, in this subpopulation, and underlines the importance of communicating risks for abrupt medication cessation to patients along with the risks associated with untreated catatonia. It also highlights the importance of follow-up care, the need for additional outpatient resources, and the importance of coordination between neurology and psychiatry.

#### **No. 52**

##### **Music on the Brain: A Case of Auditory Charles Bonnet Syndrome**

*Poster Presenter: Carly Anne Keenan, D.O.*

#### **SUMMARY:**

Ms. S is a 65-year-old female with no significant psychiatric history referred to psychiatry by her neurologist for continuous musical hallucinations over the past eighteen months. Two and a half years prior to onset of the hallucinations, the patient sustained a motor vehicle accident whiplash injury. Following this she developed marked deterioration of her hearing and was diagnosed with both conductive and sensorineural hearing loss by otolaryngology. She began to hear a roaring sound "like a jet engine" which was loudest at night. This persisted for two years, the patient even moved into a new apartment complex to escape the noise which she believed was being made by someone on the property. She then began to hear continuous singing. This started as a male voice singing "The Star-Spangled Banner" and "America the Beautiful." Later she began to hear a group of ladies singing a variety of patriotic songs and Christmas carols as

well. The patient was adamant that her neighbors were singing throughout the day and night to drive her away from her apartment. After psychiatric assessment, the patient's presentation and history were deemed to be inconsistent with any psychotic disorder including schizophrenia, bipolar disorder, PTSD, delusional disorder, depression with psychosis, or dementia. Upon review of the literature, evidence was found regarding a rare type of deafferentation syndrome, or hallucinations in the context of sensory loss, frequently referred to as Auditory Charles Bonnet Syndrome. Up to 24% of individuals with hearing loss will experience auditory hallucinations, and approximately 3.6% of individuals with hearing loss experience musical hallucinations. Hypoacusis is the most common cause of musical hallucinations. It is not uncommon for those with Auditory Charles Bonnet Syndrome to develop secondary delusions as they search for an explanation for what they are experiencing. In this poster, we discuss the epidemiology and clinical picture of Auditory Charles Bonnet Syndrome, our current understanding of the pathophysiology, and treatment options. This case emphasizes the importance of familiarity with deafferentation syndromes and how to distinguish hallucinations due to sensory loss from psychotic psychiatric illness. This will be of increasing importance as the U.S. geriatric population expands in the coming years.

#### **No. 53**

##### **Geriatric Patient With Worsening Cognition/Failure to Thrive Due to COVID-19 Infection (Case Report)**

*Poster Presenter: Mohammed Faizur Rahman, M.D.  
Co-Author: Pricila Jimenez*

#### **SUMMARY:**

Introduction: After the WHO admitted Covid-19 disease with pandemic consequences we have seen many people been killed by this infection worldwide (1). The most affected and vulnerable have been the elderly. who have faced severe post-covid-19 cognitive issues followed by rapid deterioration. This is still under investigation due to lack of pathophysiologic knowledge on how the virus causes cognitive impairment (1). Patients with dementia can present with mood alterations, lack of motivation, anxiety and loss of appetite during



Covid-19 infection (2). In the long term Covid-19 can cause serious consequences to the brain such as demyelination, neurodegeneration and cellular senescence (3). The vascular deterioration and hypoperfusion in neurons accelerates the cognitive decline in the elderly (3). A 2020 study done in Kuwait demonstrated how patients with dementia developed a rapid cognitive decline during the lockdown converting mild dementia in moderate and severe dementia (4). The “vulnerable brain” can amplify neuron damage and apoptosis due to SARS-CoV2 which can affect the cortex and hypothalamus (5). Objective: The intent of this study is to investigate the various origin of rapid cognitive decline in patients with dementia exposed to the Covid-19 virus. Post-Covid-19 infection patients with dementia can present with failure to thrive and even death as a consequences of this vicious virus. Further investigation needs to be done in order to understand this extremely important medical situation. Case: Patient is a 88-year-old Hispanic male with PMH of HTN, BPH, mild neuro cognitive disorder that was admitted for COVID 19 pneumonia. Initially the patient's wife had called EMS to help him get up after a fall, however EMS had brought the patient for further evaluation when it was discovered the patient was positive for COVID-19 saturating at 98% on room air. On initial presentation the patient was calm, cooperative, with only symptom of hypoxia. Patient's MMSE score on intake was 27/30. Patient was started on remdesivir, decadron, and supplemental oxygen. Unfortunately, the patient's mental status, cognitive function, and behavior worsened over the course of his hospitalization. The patient refused to eat, became aggressive and agitated, kept removing his supplemental oxygen and had verbally non-redirectable behavior requiring 4-point restraints and IM medications. Over a course of one week, the patient went from living independently to being placed on hospice, and died secondary to worsening health due to worsening cognition, failure to thrive and hypoxia related to COVID-19. Conclusion: Covid-19 can affect the brain in many ways in the elderly patients. Few reasons are known and some needs further investigation. It is needed to emphasize the importance of recognizing cognitive decline in elderly patients who survive Covid-19 infection as an early identification and appropriate management

can decrease or even prevent further deterioration in them.

#### **No. 54**

#### **Treatment of Inappropriate Sexual Behavior in Alzheimer's Dementia With Paroxetine: A Case Study**

*Poster Presenter: Terrence Yang, M.D.*

*Co-Authors: Manhar Ahluwalia, Mehwish Hina, M.D., Asghar Hossain*

#### **SUMMARY:**

Although memory loss and cognitive impairment are the hallmark features of dementia, behavioral and psychosocial symptoms (BPSD) can also be present in multiple types of dementia, and can fluctuate in severity throughout disease course. BPSD symptoms are positively correlated with disease progression and are associated with worsened quality of life, excess morbidity and hospitalizations, earlier nursing home placement, increased caregiver burden, and accelerated mortality. Agitation, impulsivity, and disinhibition in context of dementia has been previously reported, but specific insight or current recommendations in treating inappropriate sexual behavior is lacking. We present a case of an 81-year-old male with a history of Alzheimer's dementia, who at baseline is AAOx1 (oriented to person only), is wheelchair-bound due to gait disturbance, and requires assistance with ADLs (bathing and dressing), was admitted to our acute inpatient geriatric psychiatry unit for a 20-day length of stay due to worsening physically aggressive behavior, which included inappropriate sexual behavior (ISB). The patient came from a short-term rehabilitation center. Discussion with rehab staff revealed that while at the rehab facility the patient was displaying ISB towards multiple female nursing staff (grabbing female buttocks, breasts, and genital areas). The patient was started on paroxetine 10mg daily on our inpatient unit, which was optimized to 20mg daily, which resulted in resolution of the patient's ISB. The patient, now psychiatrically stabilized, was discharged to a nursing home for continued long-term assistance with his ADLs. Paroxetine was chosen for this patient due it being the most potent inducer among SSRIs, which as a class is known for decreasing libido. In this poster, after presentation

of the case in detail, we will provide a brief discussion on the current literature regarding ISB with regard to pharmacotherapeutic options as well as diagnostic algorithms concerning ISB in dementia, which is currently poorly understood.

**No. 55**

**Being at War With Yourself: Addressing Core Beliefs With a Previous Refugee of War With Schizophrenia**

*Poster Presenter: Phuong B. Vo*

*Co-Authors: Michael Seigler, Lawrence Faziola, Alfonso Parocua*

**SUMMARY:**

BD is a 55 year old female with schizophrenia and major depressive disorder, brought in for acute psychiatric treatment by her family for hopelessness and suicidal ideation (SI). The patient was brought in after several days of insomnia, emotional lability, anorexia and “catatonic-like” behaviors including selective mutism following exposure to news reports regarding the “Fall of Afghanistan”. She had auditory hallucinations (AH) that blamed her for the recent political event. She began to have passive SI, making statements such as “there is no reason for me to live” and endorsed hopelessness, although denied any plan or intent. She had distressing, disorganized, distorted beliefs that her actions directly correlated to major negative global events. Upon further interview, it was incited that her symptoms of auditory hallucinations and these distorted beliefs of catastrophic events being caused by her own actions began when she was a young adolescent, shortly after experiencing traumatic events while fleeing political persecution as a refugee of the Vietnam war. Specifically, after physical, sexual and emotional trauma as an asylum seeker who escaped her country of origin by boat and survived being pillaged, she began hearing the voices of her family members, including deceased siblings she lost in her escape and started having symptoms of guilt and depression that persisted well into her adulthood. She was initially deemed high risk for suicide as her history included at least 2 major suicide attempts related to acute stressors and auditory hallucinations. Refugee and asylum seeking populations are at high risk for developing mental health problems and are uniquely vulnerable as they are more likely to be affected by

numerous social determinants of health. These include decreased access to safe housing (which can range to extremes of losing their home to war-time violence to prolonged detention at refugee camps), constant emotional distress due to persecution and racism, increased exposure to physical and sexual assault or torture, less access to basic needs such as food, water or clothing, extreme poverty, decreased access to education, employment or resources and cultural expectations of assimilation in their host country. About a third of asylum seekers develop depression, anxiety and PTSD and diagnosis of other mental illnesses range widely due to issues that prevent treatment seeking including cultural stigma, concerns for legal-status repercussions and lack of financial resources or knowledge of access. It can be ambiguous and challenging for mental health workers to dissect symptoms in this population, to differentiate symptoms as learned mechanisms of adaptation or organic psychiatric disorder responses. As providers, being aware of the unique vulnerabilities of this population, the challenges that they face and discussion of how to highlight resiliency while addressing psychiatric needs may be beneficial.

**No. 56**

**The Impact of the COVID-19 Pandemic on Children and Adolescents With Developmental Disorders**

*Poster Presenter: Caitlyn Dolores Fitzgerald, M.D.*

**SUMMARY:**

The COVID-19 pandemic saw a global transition from in person activity to an atmosphere of virtually functioning environments. This presented more challenges for some than others; particularly for those on the autism spectrum and those diagnosed with intellectual developmental disabilities. This population often struggles with adaptability, emotion regulation, and ability to interpret facial expression and body language in person, let alone through a computer screen. A retrospective analysis was conducted in part, to compare the number of admissions to a community child and adolescent crisis unit both before and after the emergence of Covid-19. Of particular interest was the percentage of those admitted with either Autism Spectrum Disorder (ASD), Intellectual Developmental Disability

(IDD) or both. While analysis did not show much difference in the IDD or co-occurring populations, the admission rate of those diagnosed with purely ASD increased by nearly 55% from March 2020 – March 2021. In this report, we discuss the findings of our retrospective analysis and posit some possible explanations as to why those with ASD were impacted more significantly compared to their IDD and co-occurring counterparts. One theory is that perhaps it is difficult to address and implement the behavioral redirection required in Autism intervention therapies limited to the confines of screens. Furthermore, while this study delved further into analysis of certain variables including gender, age group (primary, elementary, middle, and high school), reasons for referral (mood vs behavioral) and race, it was not determined what, if any, sort of virtual behavioral sessions patients received. Future work could investigate if those receiving specialized behavioral health treatments had services transitioned to virtual sessions, and if so, which were most effective, and what changes (if any) were instituted to foster a more therapeutic environment. As of the time of this writing (August 2021) many children and adolescents remain in hybrid learning environments with limited access to in-person therapy. Determining how to best transition evidence based treatments for Autism into the tele-psychiatry realm could potentially mean a reduction in crisis unit admissions, an action which can be traumatic to the patient in and of itself. Furthermore, optimizing virtual treatments could mean greater access and care to those in the post pandemic era, who may lack access to treatment due to certain geographic locations.

#### **No. 57**

##### **The Significance of Pediatric Medical Traumatic Stress Following Traumatic Burn Injury Management**

*Poster Presenter: Meghan Schott, M.D.*

*Co-Author: Esha Jain*

#### **SUMMARY:**

HO, an 11-year-old Nigerian female with a history of PTSD, MDD, and anxiety status-post skin grafts for 40% total body surface area gasoline burns presents for suicidal ideation with plan to self-harm with a

knife and scissors. HO was present during a terrorist attack in Nigeria involving a car explosion which resulted in 40% TBSA gasoline flame burns to her skin in 11/2020 and underwent skin grafting in Nigeria in 01/2021. In Nigeria, HO recounts experiencing traumatic medical care. The patient was subsequently hospitalized in the United States for contractures and burn wound infection in 05/2021 for two months. Management was complicated by PTSD from the trauma of the car explosion, and even more so from the traumatic medical care received in Nigeria. The patient was discharged, however presented to the ED in the United States one month later following the suicide attempt and was admitted to the inpatient psychiatric service. While admitted, she was fearful of telling the staff she was sad or having suicidal ideations out of fear of getting hit or punished for expressing emotions. Additionally, the patient still required burn management and was fearful of undergoing wound dressing changes while admitted. This further complicated making progress on her PTSD management. The ongoing medical distrust and PTSD due to previous medical care complicated the acute care of the patient's suicidal ideation. The idea of PTSD resulting from a medical event is termed Pediatric Medical Traumatic Stress (PMTS), and it is not uncommon for children to develop chronic posttraumatic symptoms following a hospitalization. This patient had cultural differences in her initial care that significantly contributed to her PTSD symptoms. Burn injuries have varying etiologies in developing countries and differ by cultural and socioeconomic backgrounds. Understanding the trauma that patients from different cultures face in the context of burn injuries can help elucidate the patient's presentation when working them up. In this paper, the significance of pediatric medical traumatic stress resulting from medical care, particularly cultural differences in burn care, will be discussed.

#### **No. 58**

##### **Military Legal System Involvement Due to Concurrent Substance Use of Active Duty Servicemembers With Serious Mental Illness**

*Poster Presenter: Austin Daniel Fritz, M.D.*

*Co-Author: Glennie Leshen, M.D.*

**SUMMARY:**

In military psychiatry, many patients receive referrals to mental health from concerned chains of command. Given the unusual rigors of the military services such as geographical separation from social supports, leadership often fulfills the roles of families, friends, and co-workers but also serves as a legal and judicial system. When service members present with serious mental illness, military medical boards help to ensure that the service member has access to care and a stable source of income upon separation from the military regardless of their number of active duty years. Concurrent legal issues, however, may arise, adding a potential barrier. Active duty psychiatrists are mandated reporters for major violations of the Uniformed Code of Military Justice, which includes legal provisions on substance use. This mandated disclosure may lead to command-dependent legal repercussions that reverberate throughout the service member's care as one of the legal consequences may be an administrative separation from the military, which may not guarantee a stable source of income or access to other benefits depending on the characterization of the discharge. The military policy for disclosure differs from that in the civilian world. This case series explores the interplay between serious mental illness, substance use, ethical issues, and state, federal, and military legal issues of active duty service members.

**No. 59****A Case of Wernicke's Encephalopathy Masked by Psychotic Depression**

*Poster Presenter: Kaveer Greywal*

*Co-Authors: Neel Patel, D.O., Rahul Kashyap, M.D., M.B.A.*

**SUMMARY:**

Title: A Case of Wernicke's Encephalopathy Masked by Psychotic Depression Authors: Kaveer Greywal MD, Neel Patel DO, Rahul Kashyap MD Affiliations: Lewisgale Medical Center (an HCA facility) Background: Wernicke's Encephalopathy represents a severely diminished mental capacity classically correlated with Alcohol Use Disorder and low Thiamine levels and demonstrating the clinical triad of ophthalmoplegia, altered mental status, and

ataxia. If symptoms are not treated quickly, the degree of mental recovery lessens and return to baseline becomes impossible. Case Description: A patient who does not drink alcohol, with history of Hypothyroidism and Persistent Depressive Disorder is admitted to hospital for poor appetite and generalized fatigue. Dysphagia workup is negative, Psychiatry team adjusts patient's antidepressant regimen, and patient is discharged to home. Eight days later, patient is readmitted to hospital with profoundly altered mental status. Patient is almost completely non-verbal and cannot see well enough to count fingers, and has developed gait ataxia of sufficient severity to require max assist when ambulating. Over the next six weeks in hospital, patient develops progressively worsening psychosis with paranoia, audio-visual hallucinations, and frequent falls out of bed without significant head trauma. Pan-scan, CSF analysis, GI endoscopy, EEG and Neurologic evaluation, Psychiatric evaluation, and extensive Infectious Disease workup are conducted. Patient's most significant positive findings are high TSH, low B1, improvement of neurologic sequelae following aggressive IV Thiamine administration, and though the psychoses resolved, neurologic baseline was not restored and this formerly independent patient was discharged to a skilled nursing facility. Discussion: The challenge of determining appropriate management for this patient was due to multiple confounding factors, most significantly the history of mental illness well known to the treatment team. Though there was also evidence of potentially symptomatic lab-validated hypothyroidism as well as non-specific PET Brain findings that correlated with Lewy Body Dementia, only the patient's poor nutritional status and severe depression could be definitively diagnosed. A careful history yielded important clues to raise clinical suspicion. In this case, the patient had suffered worsening depression, which led to poor appetite over a period of months that resulted in B1 deficiency significant enough to cause encephalopathy, ataxia, ophthalmoplegia, and amblyopia, only the latter of which resolved. Conclusion: It is important to add Wernicke's Encephalopathy to any differential in which a patient has developed altered mental status in the context of a prolonged nutritional deficiency. Aggressive Thiamine repletion is indicated for such a patient if

B1 levels are found to be low. The longer that definitive diagnosis and treatment is delayed, the worse the patient's prognosis.

#### **No. 60**

##### **Anti-NMDA Receptor Encephalitis: Last but Not Least**

*Poster Presenter: Grace Kelly Vallejo, M.D.*

*Co-Authors: Abbas Naqvi, M.D., Amanda Varughese, M.D., Dina Rimawi, M.D.*

##### **SUMMARY:**

The understanding of anti-NMDA receptor encephalitis, recognized by Dalmau and colleagues in 2007, has come a long way in helping clinicians to recognize the significance of rapidly progressive psychiatric symptoms in patients who are actually suffering from autoimmune disease. This subtype of autoimmune encephalitis manifests from antibodies that target the NR1 and/or NR2 subunits of NMDA receptors in serum or cerebrospinal fluid (CSF). Since gaining notoriety among neurologists, it has shown an etiologic predilection for children, adolescents, and young adult females, often associated with ovarian teratomas. Conversely, it affects young males as well, though it is rarer to find co-occurring tumors [2,3]. It is a multistage disorder, initially presenting with psychiatric symptoms that progress in varying fashion, including headache, fever, nuchal rigidity, emesis, seizure, autonomic instability, auditory and visual hallucinations, delusional ideation, agitation, altered sensorium, and motor disturbances (i.e. dyskinesia, catatonia, etc.). Early diagnosis is critical due to the relatively high (25%) mortality rate [4]. In this case, we present a 30 year old male that presented to our institution's Comprehensive Psychiatric Emergency Program (CPEP) exhibiting bizarre behavior and visual hallucinations, who was later confirmed to have anti-NMDA receptor encephalitis. The case report highlights the risk factors, disease course, and treatment modalities of anti-NMDA receptor encephalitis with special emphasis on the subset of patients who may not respond to first-line therapies.

#### **No. 61**

##### **Income and Life-Space Mobility as Social Determinants of Neuropsychiatric Symptom Clusters Among Older Mexican Americans**

*Poster Presenter: Michael K. Sewanaku, J.D., B.Sc.*

##### **SUMMARY:**

Background: Neuropsychiatric symptoms (NPS) may be early manifestations of neurocognitive disorders, such as Alzheimer's and dementia. Limited evidence exists on subcategorizing NPS into clusters and the relationship between NPS and social determinants of health to help advance understanding of symptoms among community-dwelling older Hispanic populations. This study aimed to utilize factor analysis to examine the NPS clusters in older Mexican Americans (MAs) with and without cognitive impairment and to examine the longitudinal prevalence of NPS using Waves 7 and 9 of the Hispanic Established Populations for Epidemiological Study of the Elderly (H-EPESE). It also aimed to examine the relationship between income and life-space mobility on NPS using Wave 7 of the H-EPESE. Methods: We used H-EPESE data from Wave 7 (2010-2011; n=925) and Wave 9 (2016; n=460) of community dwelling MAs = 80 years of age. NPS were assessed using the Neuropsychiatric Inventory Questionnaire (NPI-Q) by informants, and cognitive impairment (CI) was based on the participant's Mini-Mental State Examination (MMSE) score = 18. Exploratory Factor Analysis for NPS clustering was performed using IBM SPSS 25.0. NPS clusters for participants with and without CI were identified by Principal Axis Factoring analyses with varimax rotation. Frequencies in NPS and cluster prevalence were assessed longitudinally. Spearman correlation coefficients were conducted to examine the relationships between participants' income and severity of NPS and to examine the relationships between the number of times participants leave their homes and severity of NPS. Results: NPS were reported in 5% to 35% of adults with or without CI. Euphoria was the least prevalent symptom reported by informants. A simple three-factor structure model of the NPI was identified: Hyperactivity (Irritability, Agitation, Disinhibition), Mood Disturbances (Depression, Appetite, Apathy, Sleep, Anxiety), Psychosis/Motor Disturbances (Hallucination, Motor Disturbances, Delusion). NPS cluster presentation

varied between older MAs with and without CI. Participants reported a greater prevalence of NPS at Wave 9 compared to Wave 7 except for Delusions. Income level was found to have a significant relationship with Total NPI Severity Score ( $r(508) = -.10, p = .020$ ). The number of times participants went outside home was found to have a significant relationship with Total NPI Severity Score ( $r(459) = .14, p = .002$ ). Conclusions: Our results suggest that there are different NPS profiles for MAs with and without CI, and the prevalence of NPS worsens with time. Higher levels of income and number of times participants went outside were associated with decreased reporting of severe NPS among MAs. Future work will explore other social determinants of mental health and their impact on how NPS progression can predict cognitive decline and identify risk factors associated with changes in NPS over time among older MAs.

#### **No. 62**

##### **Mixed Features Associated With a New Demyelinating Lesion in a Patient With Multiple Sclerosis**

*Poster Presenter: Daniel Thomas Higgins, M.D.*

##### **SUMMARY:**

Mr. D, a 46-year-old African American man with a history of multiple sclerosis and depression, was admitted to the inpatient neurology service due to increasingly bizarre, aggressive behavior over the previous month. Shortly following admission, psychiatry was consulted regarding management of agitation and concern for primary psychiatric illness. The history was collected primarily from the patient's wife as he was irritable, pressured, distractible, and tangential. She described him as more argumentative and dismissive of others, speaking in circles, sleeping less, and describing feelings of worthlessness and suicidal thoughts. He had been diagnosed with depression by his outpatient neurologist and started on sertraline, followed by the addition of bupropion and then amitriptyline. Upon admission, all antidepressants were rapidly discontinued. Brain MRI revealed a new right corpus callosal demyelinating lesion with stable demyelinating lesions in other areas; medical workup was otherwise unremarkable. Olanzapine

was scheduled and additional doses were given for agitation. After some consideration, he received a pulse dose of methylprednisolone followed by a two-day burst of oral prednisone. He was discharged and follow-up contact two weeks later revealed that he was much calmer and more cooperative as compared to prior to admission. This case demonstrates the importance of close collaboration between specialties for patients experiencing psychiatric effects of neurological illness, and the variety of possible symptom presentations. In this poster, we explore the current thinking regarding the association between mood symptoms and multiple sclerosis, as well as treatment of these episodes.

#### **No. 63**

##### **Recurrence of Symptoms After Initial Recovery From CHANTER Syndrome: A Case Report**

*Poster Presenter: Vijay Shah*

*Co-Authors: Charles Haverty, Pedro Bauza*

##### **SUMMARY:**

Cerebellar Hippocampal And basal Nuclei Transient Edema with Restricted diffusion (CHANTER) syndrome is rare condition with a unique set of imaging findings. Just 7 cases have been reported in the literature and little is known about the outcomes following discharge. In this poster, we discuss the presentation and clinical course of a 42-year-old patient who initially presented with altered mental status after being found unconscious after fentanyl intoxication. Though he was initially misdiagnosed with bilateral cerebellar infarcts, he was ultimately diagnosed with CHANTER syndrome after MRI showed bilaterally symmetric abnormally restricted diffusion in the cerebellar cortex, hippocampi, and basal nuclei; notably, his MRI did not show obstructive hydrocephalus, unique from prior cases of CHANTER syndrome. With hypertonic saline followed by supportive therapy, he demonstrated modest motor improvement but had persistent short-term memory and orientation deficits. After discharge, his symptoms briefly improved; however, shortly afterwards he had an episode of syncope with altered mental status. Repeat MRI showed resolved diffusion restriction. With supportive care, he continued to have mild sensory deficits and short-

term memory loss, but his orientation and motor strength improved. Here we discuss the importance of considering CHANTER syndrome in the differential diagnosis, even in the absence of obstructive hydrocephalus, as well as the risk of symptom recurrence following recovery.

#### **No. 64**

##### **Pseudobulbar Affect Mimicking Depression: A Case Report**

*Poster Presenter: Victor Kekere, M.D., M.S.*

*Co-Authors: Amod Thanju, Danish Qureshi, Tolulope Olupona*

#### **SUMMARY:**

**Introduction** Pseudobulbar affect (PBA) is a neurological condition that is characterized by brief episodes of uncontrollable, sudden, and inappropriate emotion such as crying or laughing which are mood incongruent. PBA has been associated with a higher prevalence of diagnosable psychiatric disorders, and about 30%–35% of patients with PBA are depressed. An accurate estimate of the prevalence of PBA is difficult to obtain because of variable diagnostic criteria and patient populations. Research suggests the range of estimates of prevalence in various neurological disorders is high, ranging from 5% to well over 50%. Although it is commonly misdiagnosed as a mood disorder, particularly depression or a bipolar disorder, there are characteristic features that can be recognized clinically or assessed by validated scales, resulting in accurate identification of PBA, and thus permitting proper management and treatment. **Case summary** We present the case of Mr. K, a 59-year-old African American male with no past psychiatric history who was admitted to the medical floor for complaints of chest pain. A psychiatric consultation was obtained for depression following the patient's wife reports of paroxysm of episodes of crying for hours for the past one year. Mr. K had no previous psychiatric history. He endorsed poor concentration and feeling of hopelessness, however he denied depressed mood, anhedonia or excessive guilt. Patient was observed with episodes of crying which were sudden and involuntary. Center for neurologic study - liability scale (CNS-LS) for pseudobulbar affect was

administered to the patient with the score of 22. CT - head w/o contrast shows nonspecific ventricular hypo-densities likely related to microvascular ischemia. **Discussion** Although the exact etiology of PBA is unknown, current evidence suggests that PBA results from the disruption of the cerebro-ponto-cerebellar circuit which decreases the threshold of the expression of emotions. Existing evidence suggests that abnormal dopaminergic, glutaminergic and serotonergic neurotransmission may contribute to PBA. The most challenging aspect of pseudobulbar affect is differentiating it clinically from depression. Episodes of uncontrollable, sudden, and even inappropriate emotions may be manifestation of underlying neurological or psychiatric conditions. **Conclusion** PBA is characterized by a lack of voluntary control over affective expression, a disorder of disinhibition. Major depression is thought to involve numerous and widespread neural pathways but PBA may involve more specific networks that determine the motor control of affect expression. Although SSRI and TCA can be used for both depression and PBA, Nuedexta is the only FDA approved medication for PBA with clinical efficacy. Henceforth, the recognition and diagnosis of PBA is necessary to ensure appropriate treatment and improved quality of life.

#### **No. 65**

##### **Beating All Odds: A Rare Presentation of Edwards Syndrome (Trisomy 18)**

*Poster Presenter: Tanvi Gupta, D.O., M.S.*

#### **SUMMARY:**

**Introduction:** Trisomy 18 syndrome (also called Edwards syndrome) is the second most common trisomy detected in live births, manifesting about once in 5000 live births. Edwards syndrome is associated with a wide range of body abnormalities leading to a very poor prognosis, with only 5-10% of children with the condition surviving past their first birthday. Even with survival there is severe lifelong intellectual disability. In this case report we present a 24 year old African American male with Edwards syndrome who not only beat the odds of being in the 5-10% surviving past his first birthday, but also has celebrated his 24th birthday in the last months of

2018. **Case Presentation:** The patient was seen as psychiatric consultation for agitation and aggressive behavior. Upon initial survey, the patient was met squatting on the floor, and soon started pacing around the hallway soon after. He was breathing heavily, drooling, making repeated hand wringing motions and holding his hands up to his ears. Physical findings include microcephaly, hypertonia, prominent occiput, flexed fingers, with the index finger overlapping the third finger and the fifth finger overlapping the fourth. Cognitive and behavioral findings include mental retardation, developmental delay, mood disorder, and agitation. The patient is dependent in all ADLs and eats a puree diet supplemented with ensure pudding. The patient is completely non-verbal, non-cognizant, with safety and aspiration precautions. **Treatment Plan:** The current medication treatment plan is to continue Quetiapine 125 mg PO QAM and 300 mg PO QHS, Olanzapine 2.5 mg PO PRN Q8H (agitation), Docusate Sodium, Ergocalciferol, Magnesium Oxide (impulse control), Pyridoxine (impulse control). Music therapy, art therapy, and one-one visits to promote overall development and awareness.

**Discussion:** The patient in question shares many of the physical characteristics commonly found in those diagnosed with trisomy 18. However, it remains to be seen if the patient will also develop many of the complications common to those affected by the condition. No treatment exists for the chromosomal abnormality and management is usually directed at improving the patient's disposition, cognitive performance, and maximizing the patient's ability to function. Medical therapy is targeted toward symptoms and improving quality of life. The most well known, longest recorded survival time of a patient with Edwards Syndrome was in Elaine Fagan who passed away at the age of 25. Like her, the patient in this case has reached an age that less than 1% of newborns diagnosed with Edward's Syndrome will. *Key Words: Edwards syndrome, trisomy 18, survival rate*

#### **No. 66**

#### **A Case of Anti-NMDAR Encephalitis Initially Diagnosed as Major Depressive Disorder With Subsequent Suicide Attempt**

*Poster Presenter: Jason S. Lee, M.D.*

*Co-Author: Travis Stuart Krew, M.D.*

#### **SUMMARY:**

Anti-N-methyl-D-aspartate receptor (NMDAR) encephalitis is a complex immune-mediated neuropsychiatric illness marked by acute changes in behavior, speech, movement, and arousal. Patients classically present with new-onset agitation or psychosis. Although anti-NMDAR encephalitis is often preceded by psychiatric symptoms, there is a lack of literature describing a prodromal major depressive episode. We describe the case of a patient diagnosed with anti-NMDAR encephalitis after presenting with severe depressive symptoms. The patient was a 23-year-old female with no past medical history who experienced severe depression and anxiety and was admitted to an inpatient psychiatric hospital for treatment of major depressive disorder and generalized anxiety disorder. Multiple psychotropic medication trials did not result in sustained improvement of her symptoms. Three weeks after discharge, she experienced generalized seizures and was diagnosed with anti-NMDAR encephalitis. One month later, she was neurologically hospitalized for increasing aggression, worsening staring spells, and altered cognition during a steroid taper. Intravenous immunoglobulin was started. During her neurological hospitalization, she attempted suicide by self-strangulation in the bathroom. She was transferred to inpatient psychiatry. Fluoxetine was increased from 20 to 40 mg daily and quetiapine 25 mg was initiated for insomnia. The patient was stabilized, and her suicidal ideation resolved. She was then transferred to a medical hospital with plan for plasma exchange therapy. This report highlights a case of anti-NMDAR encephalitis preceded by a severe major depressive episode with a suicide attempt. The most common presentation prior to confirmation of anti-NMDAR encephalitis is new-onset psychiatric symptoms, with agitation or aggression occurring most frequently (55.5%-59%), followed by acute psychosis (40%-54%). This case demonstrates how major depressive disorder may precede the core features of anti-NMDAR encephalitis and intensify as the disease progresses. Depressive symptoms are reported to occur in 10%-30% of cases of anti-NMDAR encephalitis; however, suicidality is rarely reported. Since psychiatrists are increasingly involved in the diagnosis and treatment



of this neuropsychiatric illness, knowledge of the usual psychiatric phenotype, as well as less common ones, is important. Rapid-onset psychiatric symptoms, including depression and suicidality, followed by comorbid neurological signs, should alert clinicians to the possibility of anti-NMDAR encephalitis.

#### **No. 67**

##### **Diagnostic Implications of Dissociation in Obsessive-Compulsive Disorder: A Case Report**

*Poster Presenter: Jason S. Lee, M.D.*

*Co-Author: Joseph Romaine Dolensky, M.D.*

#### **SUMMARY:**

Obsessive-compulsive disorder (OCD) is a chronic mental illness with numerous subtypes that is marked by significant distress and functional impairment. While dissociation is not a diagnostic criterion for the disorder, it is a known feature of OCD as well as numerous other psychopathologies. Despite the frequency with which these two psychiatric phenomena occur, there is a scarcity of literature describing the relationship between dissociation and OCD symptomatology. The following report details the case of a patient with acute suicidal ideation triggered by uncontrolled obsessions and dissociation. A 21-year-old male with a past medical history of OCD, panic attacks, and dissociative symptoms presented to the psychiatric unit with a complaint of worsening intrusive thinking and depersonalization for the past several months. He described persistent thoughts of imagined harm (i.e., “what if I drive off the road?”) and questioning his values (i.e., “what if I do not like my dog/family/hobbies?”) occurring since childhood, neither adequately controlled by previous medications or therapy. The patient’s depersonalization, which started 2 to 3 years prior to admission, consisted of feelings that, “my hands aren’t mine; my words aren’t mine” and the sensation of watching himself from outside his body. These worsening symptoms triggered suicidal ideation with plan and intent to die by hanging. In addition, he described significant functional impairment related to his education and job. The patient was diagnosed with depersonalization/derealization disorder (DDD),

OCD, and unspecified depressive disorder. Recently initiated fluvoxamine was increased to 150 mg every morning and 100 mg at bedtime. Upon discharge, suicidal ideation resolved, and distress related to his OCD symptoms improved. This report highlights a case of DDD accompanying severe OCD with prominent imagined harm and rumination. Previous studies reported 14% of OCD patients have a dissociative disorder. In addition, there is a positive correlation between OCD and dissociative symptom severity. Presently lacking is data analyzing the relationship between OCD symptom subtypes and dissociation severity. Evidence suggests obsessive compulsions (intrusive thoughts of imagined harm) and rumination are more strongly associated with dissociative experiences as compared to other OCD symptoms (i.e., washing, checking, precision). The patient in this report happened to suffer most prominently from these two symptoms. The literature also suggests OCD treatment resistance is correlated with a high dissociation burden, which may suggest why this patient’s OCD had not responded adequately to previous treatments. Appreciation of the relationship between dissociative symptoms and OCD may help clinicians better diagnose and treat these disorders.

#### **No. 68**

##### **Genetic Polymorphisms and Clinical Implications of the Use of Stimulants Agents in Mood and Attentional Deficits Disorders: A Systematic Review.**

*Poster Presenter: Sofia Jezzini-Martínez*

*Lead Author: Nicolas Nunez*

*Co-Authors: Alfredo Bernardo Cuellar-Barboza, Manuel Andres Gardea Resendez, M.D., Mark Frye, M.D.*

#### **SUMMARY:**

**Abstract Introduction:** Stimulants are FDA approved for the treatment of attention deficit hyperactivity disorder (ADHD), and in mood disorders, their use as augmentation agents is controversial due to mixed findings 1-3. Moreover, there is a dearth of studies examining the role of genetic variations and their clinical implications<sup>4</sup>. Our aim was to systematically explore the role of genetic variations on stimulants’ action mechanisms and their clinical implications.

**Methods:** A comprehensive search was conducted from inception until May 2021. Our inclusion criteria were: observational, cross-sectional, open-label, and randomized controlled studies in adults (>18 years) with major depressive disorder (MDD), bipolar disorder (BD), and ADHD and its corresponding genetic polymorphisms; use of stimulants (methylphenidate, lisdexamfetamine, dextroamphetamine, amphetamine/dextroamphetamine) or stimulant like compounds (modafinil, armodafinil); (c) analysis of following genes: dopamine receptors and transporters (DRD4, DRD2; SLC6A3, DAT) reuptake inhibitors, norepinephrine transporters (NET, SLC6A2) and serotonin transporters (SLC6A4). Our outcomes will be an overall improvement in function assessed by clinician-rated behavior scales, proportions of subjects that responded to treatment or remitted after treatment, respectively. **Results:** From 1,237 abstracts, we selected 11 articles for full-text review. Seven studies met the inclusion criteria for the systematic review. Five studies (N=498; mean age 37.13±12.26 met our criteria): two RCTs (n=121, mean age 41.16±14.86) analyze polymorphisms in SLC6A4/5-HTTLPR, DAT1 VNTR (in the 3'-UTR) and DAT1 VNTR (hDAT1 5p15.3), one prospective (n=171, mean age 35±11) analyzes polymorphisms in DAT1/rs2652511, DAT1 In8 VNTR, DAT1/rs28363170 and two retrospective (n=206, mean age 36.5 ± 11.01) analyze polymorphisms in DRD4 VNTR exon 3, DRD4 ins/del, SLC6A4/5-HTTLPR, SLC6A3/DAT1 VNTR, HTR1B/rs11568817, HTR1B/rs13212041 and HTR1B/rs6269. In ADHD, there were no significant differences in allele or genotype frequencies between methylphenidate responders and non-responders. However, the SCL6A3 polymorphisms may be associated with treatment response to methylphenidate. In MDD, DAT polymorphism had greater cognitive executive dysfunction. Most adverse events reported were moderate nausea, anxiety, polyuria and with highest percentages for headaches (38.1%), gastrointestinal complaints (21.2%) and decreased appetite (19.08%). None of the included studies reported serious adverse events. **Conclusions:** The studied genetic polymorphisms appear to have no implications in the clinical response for adults with ADHD. A lack of data is evident in mood disorders, with only one study evaluating one polymorphism in MDD and no

studies in adults with BD. Therefore, the development of studies focusing on the implications of genetic polymorphisms and treatment response in this specific population are warranted.

#### No. 69

##### **Assessment of Burnout Syndrome and Associated Factors Among Medical Students During COVID-19 Pandemic: A Cross-Sectional Study.**

*Poster Presenter: Sofia Jezzini-Martínez*

*Co-Authors: Lourdes Gil Flores, Rodrigo Enrique Elizondo-Omana, Pablo Patricio Zarate-Garza*

#### **SUMMARY:**

**Abstract Introduction:** Burnout syndrome is a depletion condition based on three dimensions: emotional exhaustion, depersonalization, and low personal accomplishment.<sup>1</sup> The current conditions of COVID-19 pandemic led to stress, changes in learning behaviors, worsening of mental health, and increased depression levels among medical students.<sup>2-4</sup> This study aims to establish the burnout prevalence and associated factors among medical students during the COVID-19 pandemic. **Methods:** A cross-sectional study was conducted in all years of the medical program during the last week of the spring semester of 2021. An online survey was sent to the institutional e-mail of the students where the Maslach Burnout Inventory-Student Survey (MBI-SS) an associated factors survey were applied, where we asked about their confidence in medical knowledge, fear of academic failure, concern for the professional future, family support and pressure, exercise practice, drug use, previously diagnosed psychiatric disorder, economic crisis, clinical rotations, fear of getting infected by COVID-19 and death of a family member during the coronavirus pandemic. **Results:** Data from 613 students were analyzed, demographic data showed that 72.8% (n=446) of the students were between 20-25 years old and 18.1% (n=111) had a psychiatric disorder previously diagnosed. Based on the MBI-SS definition, most of the sample of the study had symptoms of burnout (54.2%, n = 332), 79.6% (n = 448) scored high on emotional exhaustion, 57.3% (n = 351) scored high cynicism, and 36.4% (n = 223) scored low on academic effectiveness. Female students presented higher incidence of burnout (60.2% vs 44.2%, p=0.00),

emotional exhaustion (79.6% vs 72.7%,  $p=0.003$ ) and cynicism (62.3% vs 48.5%,  $p=0.003$ ) than male. After adjusting the associated factors, we found a significant correlation between the school year and the presence of burnout (OR 1.127, 95% CI [1.023-1.241],  $p<0.05$ ). Females were almost one time more likely to develop burnout than males (OR 1.902, 95% CI [1.341-2.698],  $p<0.001$ ) the students who smoke are one time more likely than those who not (OR 2.117, 95% CI [1.177-3.806],  $p<0.05$ ). Regarding the current pandemic, the death of a family member by COVID-19 also puts the students at risk to develop burnout (OR 1.598, 95% CI [1.080-2.363],  $p<0.05$ ).

**Conclusion:** Facing the coronavirus pandemic represents a challenge to the academic and psychological stability of the students due to the changes it can cause in daily life. Burnout syndrome increases throughout medical school, mental health programs need to achieve greater dissemination and adapt to new social distancing standards. The results of this study evidence the need to study burn out prevalence in universities, and the development of strategies to promote the mental health of future physicians.

## No. 70

### **The Impact of Covid-19 Pandemic on Resident Wellness: An Analysis of ACGME Well-Being Surveys**

*Poster Presenter: Alan Xie*

*Co-Authors: Vijayabharathi Ekambaram, M.D., Mouchumi Bhattacharyya, Sara Rostamizadeh*

#### **SUMMARY:**

**Objective:** The prevalence of resident physician burnout is a well-known problem that coincides with the historically demanding and stressful nature of medical training. In recent years, the COVID-19 pandemic and its disruption to the American healthcare system may predispose healthcare workers to worsened mental health outcomes. Accreditation Council for Graduate Medical Education (ACGME) well-being surveys obtained both Pre and Post COVID-19 are compared to assess the well-being of the resident physicians. **Methods:** Pre-COVID ACGME wellbeing survey conducted among resident physicians ( $n=30$ ) was compared with Post-COVID ACGME wellbeing survey ( $n=62$ ) at St. Joseph's Medical Center Graduate Medical

Education residency programs in California. Resident physicians responded anonymously to online surveys between January 2020- February 2020 and again between February 2021-April 2021. The institutional resident wellbeing survey was also compared with the national average of resident wellbeing survey. For data analysis, we combined the "agree and strongly agree" and combined "disagree and strongly disagree" categories. Categorical data analysis was performed on five questions with adequate sample sizes to determine if there is any significant difference in pre and post COVID resident physicians' wellbeing. The Post-COVID surveys at St. Joseph's were also compared to a larger dataset within the national survey. Results: Significant differences were found between Pre (2020) and Post (2021) COVID surveys for statements: "I feel worn out and weary after work" (53.33% vs. 33.87%,  $p = 0.0372$ ). There were no significant differences found for statements "I often feel emotionally drained at work" (60% vs. 50%,  $p$ -value = 0.1837) and "After work, I need more time than in the past in order to relax" (43.33% vs. 35.48%,  $p$ -value = 0.2336). When compared to the national surveys, the institutional resident surveys showed fewer resident physicians agreeing with the statements "I often feel emotionally drained at work" (50% vs. 67.3%,  $p = 0.0018$ ), "I feel worn out and weary after work" (33.87% vs. 59%,  $p = 0.001$ ), as well as "I have enough time to think and reflect" (77.42% vs. 87.5%,  $p = 0.0082$ ). **Conclusion:** Resident physicians at St. Joseph's Medical Center reported feeling more worn and weary after work in the Pre COVID surveys compared to Post COVID surveys. Resident burnout started before the pandemic and will continue if unaddressed. Of note, St. Joseph's residents reported a diminished sense of burnout compared to the national survey averages. Limitations of the study may include sampling biases in the resident cohorts. Continuing research should be conducted to further understand the impact of the COVID-19 pandemic on resident wellness.

## No. 71

### **Correlation Between Previous Posttraumatic Disorder and Recent Posttraumatic Symptoms in Physician Trainees During the COVID-19 Pandemic**

*Poster Presenter: Mohamed Elsayed, M.D.*

*Co-Authors: Megan Jia Wang, Patrick Arthur, M.D., Ahmed Al-Katib, M.D., Michael F. Myers, M.D.*

#### **SUMMARY:**

**Introduction:** The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020. On March 28, 2020, the University Hospital of Brooklyn (UHB) was designated as a COVID-19-only hospital, allowing the hospital to treat cases with a suspected or confirmed COVID-19. Posttraumatic stress disorder (PTSD) is a well-established sequela of pandemics.<sup>1,2</sup> During the pandemic, resident and fellow physicians were forced into unprecedented situations: treating critically ill patients, witnessing a high mortality rate, and facing their own mortality while working on the frontlines. Previous studies have identified a heightened number of physicians with PTSD after providing intensive care to patients with COVID-19.<sup>3,4</sup> Our study aimed to understand the factors associated with posttraumatic disorder-related symptoms in physician trainees during the COVID-19 pandemic. **Methods:** We sent out an Anonymous, voluntary, Qualtrics-mediated, ten-minute survey through the General Medical Education office to all UHB trainees in May 2020. The survey included questions about demographics, time spent with COVID-19 patients, and screening questions for PTSD, which were adapted from the Genomic Psychiatry Cohort study.<sup>5</sup> Participants were screened for symptoms of PTSD from a traumatic event prior to the COVID-19 pandemic and traumatic events related to COVID-19. There were four yes/no questions for each traumatic event. "Yes" answers were scored as "1" and "no" answers were scored as "0" for each response and a total score for probability of PTSD was calculated for each subject. Statistical analysis was performed using IBM SPSS Statistics 27. A Point-Biserial Correlation Coefficient analysis was used for correlation analysis. **Results:** 125 trainees (of both genders and diverse ethnic backgrounds) submitted their answers for the survey, of which 27 participants responded "yes" to experiencing a traumatic event prior to the pandemic. Further, 15 out of the 27 participants responded "yes" to experiencing a prior traumatic event and a traumatic event related to COVID-19. There was a significant positive correlation between experiencing previous trauma and present trauma from COVID-19 ( $r = 0.237$ ;  $p < 0.05$ ), between

experiencing flashbacks from previous trauma and flashbacks from COVID-19 ( $r = 0.577$ ;  $p < 0.05$ ), between avoidance symptoms from previous trauma and avoidance symptoms from COVID-19 ( $r = 0.661$ ;  $p < 0.01$ ), and between increased irritability/reactivity from previous trauma and increased irritability/reactivity from COVID-19 ( $r = 0.612$ ;  $p < 0.05$ ). **Conclusion:** Our findings suggest having posttraumatic-related symptoms from a traumatic event prior to COVID-19 is associated with experiencing PTSD-related symptoms from COVID-19. Further study regarding the mental health of trainees from COVID-19 is needed. Moreover, urgent interventions are needed to address PTSD symptoms in trainees during the COVID-19 pandemic.

#### **No. 72**

##### **Patient Safety and Quality Improvement Resident Representative: A Peer-Led Approach to Increase Residents' Knowledge and Comfort With Root Cause Analyses**

*Poster Presenter: Patrick Buckley, M.D.*

*Co-Authors: Luke Swider, Priyanka Amin*

#### **SUMMARY:**

**Introduction:** Resident education about patient safety and quality improvement are important for their development as physicians and an ACGME common program requirement. In 2019, our psychiatry residency program created a new leadership role, the Patient Safety and Quality Improvement (PSQI) Resident Representative, to coordinate trainee involvement in quality and safety initiatives under the supervision of a faculty mentor. The PSQI Resident Representative's initial focus was to invite all interns to observe a root cause analysis (RCA) and provide education and support to residents participating in RCAs. Here, we present survey results assessing our residents' knowledge and comfort with RCAs before and after the creation of the PSQI Resident Representative role.

**Methodology:** Anonymous electronic surveys were sent to all psychiatry residents and child and adolescent psychiatry fellows at our institution in February 2018 and again in April 2021, approximately two years after the creation of the PSQI Resident Representative role. Resident knowledge and attitudes about RCAs were assessed

using Likert scales and compared between years using unpaired two-tailed t-tests. This project was approved by our institution's Quality Improvement Review Committee. **Results:** Survey results are summarized as follows: Survey Question: Pre-PSQI Representative (2018, n=36) | Post-PSQI Representative (2021, n=26) | p-value: "I am knowledgeable about what occurs at an RCA.": 3.72 | 3.77 | 0.85; "I feel comfortable participating in an RCA.": 3.00 | 3.62 | 0.04; "I feel there is transparency regarding what is discussed at RCA." | 2.81 | 3.31 | 0.13; "I feel that clinical practice has been changed based on recommendations from RCAs.": 2.75 | 3.15 | 0.09; "I am likely to refer my own case for an RCA.": 2.55 | 3.27 | 0.02. **Notes:** 1 indicates "Strongly Disagree" and 5 indicates "Strongly Agree". Mean values are presented. Bold = p<0.05 **Conclusion:** The creation of the PSQI resident representative was associated with a statistically significant increase in resident comfort with RCAs and increased willingness to refer their own cases for RCA review. Given the positive response, the PSQI resident representative role has since expanded to include QI curriculum development and implementation, dissemination of information concerning patient safety events and outcomes to the residency program, and connection of trainees with faculty mentors for QI projects within the department.

#### **No. 73**

##### **Outcomes of Medication Lockbox Distribution for Pediatric Patients After Mental Health Crisis**

*Poster Presenter: Laura J. Levy*

*Co-Authors: Shane Hervey, M.D., Kyle Johnson, M.D., Daniel Nicoli, D.O.*

#### **SUMMARY:**

**Background:** Rates of youth dying by suicide in Oregon have been increasing since 2011.<sup>1</sup> Currently, suicide is the leading cause of death for Oregonians 10-24 years old.<sup>2</sup> Means restriction, such as tools to reduce or eliminate access to medication and firearms, is a proven strategy that has decreased rates of suicide.<sup>3</sup> **Methods:** This was a cross sectional analysis followed by a case control study of patients seen by a child and adolescent psychiatry team who were deemed to be at an increased risk of suicide

(e.g., patients presenting with suicidal ideation, concerning depressive symptoms, or recent self-harming behaviors) between February 2018 and February 2020. The psychiatric consult team dispensed medication lockboxes to families who visited the emergency department with a youth with an elevated suicide risk. Our team conducted a follow up phone survey with the youth's guardian to assess receipt of medication lockbox, lockbox use and storage practices, post-receipt suicide attempts, beliefs and attitudes regarding medication storage, and lockbox use. The team attempted to contact all 112 families who received a medication lockbox, and 69 (61.6%) families completed the survey. **Results:** Of the 61 respondents who affirmed that they had received a medication lockbox, 47 (77.0%) used it to store medications. There were 42 (68.9%) respondents who were aware of prescription or over the counter drugs not stored in the lockbox. There were 47 (97.9%) respondents who reported that no one in the home accessed the lockbox when they were not supposed to do so. There were 11 (18.0%) youth who reattempted suicide during the study period and 4 (36.4%) of these were by medication overdose. On a 1-10 scale (1 not important, 10 very important), the average response of how important it was to receive a lockbox was 8.2, how important it was that the lockbox was free was 7.3, and how important it would be for other families who have experienced an attempt to have a medication lockbox was 9.6. **Conclusion:** Medication lockboxes are a low-cost and evidence-based intervention to prevent suicide. Our study suggests that families are likely to follow through with means restriction when a medication lockbox is provided to them. Families valued the medication lockboxes as an intervention and reported that this would be an important intervention for other families experiencing a crisis. This is an easily replicable clinical practice that could add value to patient care and improve outcomes.

#### **No. 74**

##### **Escitalopram-Induced SIADH in a Geriatric Patient: A Case Report and Literature Review**

*Poster Presenter: Sanjana Kumar, M.D.*

*Co-Author: Deepika Sundararaj, M.D.*

## SUMMARY:

SSRIs are a class of antidepressants that have been known to cause hyponatremia by inducing SIADH. Age >65 is a risk factor and the risk of developing severe hyponatremia is greatest in the few weeks after initiating treatment. Escitalopram has rarely been implicated in SIADH compared to other SSRIs. MG is an 83yo female with history of hypertension, hyperlipidemia, breast cancer, and mild dementia, who presented with generalized weakness for 1 week, and was found to have critical hyponatremia of 119. She had started Escitalopram for depressed mood 2 weeks before presentation. Her home medications were donepezil, memantine, atorvastatin, and aspirin. Labs were notable for low serum osmolality, high urine osmolality, high urine sodium, and fractional excretion of uric acid >12%, consistent with SIADH. Literature review was conducted by searching PubMed for case reports about Escitalopram-induced SIADH published in the last 5 years. Results: Literature review revealed 4 case reports involving escitalopram and SIADH.<sup>1-4</sup> Only 2 involved a geriatric patient. All of them described lab results consistent with SIADH, treatment with fluid restriction, and cessation of Escitalopram. For MG, we stopped escitalopram and started fluid restriction with improvement in sodium levels. Discussion: Literature review suggests that serotonin-mediated effects on 5-HT receptors induce release of ADH. In addition, SSRIs are known to inhibit the metabolism of other medications through CYP450 inhibition. MG was on donepezil and memantine, and there was a case report published in 2017 on how concomitant use of donepezil and memantine caused SIADH in a 50 yo male.<sup>5</sup> MG had been on donepezil and memantine for years, however it is possible that the recent addition of Escitalopram inhibited the metabolism of these medications, resulting in greater release of ADH. Conclusion: Providers should be aware of this rare side effect of escitalopram in future treatment considerations.

## No. 75

### How to Optimize Clozapine's Effectiveness in Treatment-Refractory Schizophrenia?

Poster Presenter: *Mujeeb Uddin Shad, M.D., M.S.*

Co-Authors: *Darakhshan Adam, Umer Suleman, Elham Soltani*

## SUMMARY:

**Background** Despite significant psychopharmacological advances, clozapine remains the gold standard to manage treatment-refractory schizophrenia (TRS)(1). However, clozapine is under- and/or sub-optimally used despite the stress-induced increase in patients with TRS in the United States (2). This has a significant negative effect on clinical, social, and functional outcomes in this patient population and their families. Although there is no relationship between antipsychotic dose and efficacy, enough data exist to support this relationship for clozapine to justify therapeutic drug monitoring (TDM) (3). The guidelines for TDM to optimize clozapine (CLZ) treatment are available for decades but not frequently followed in clinical practice. Each of these methods is easily calculable and provides a clinically meaningful but somewhat different pharmacokinetic interpretation to optimize CLZ treatment. This review differentiates the clinical utility of the ratio between the plasma levels of CLZ and its primary metabolite, norclozapine (NCLZ) (i.e., CLZ/NCLZ), and to a lesser extent between CLZ & NCLZ concentrations and CLZ dose (i.e., C/D).

**Methods** A literature search was conducted using PubMed, PsychINFO, and Google Scholar for the following terms (('clozapine' OR 'norclozapine') AND ('therapeutic' OR 'drug' OR 'monitoring' OR 'ratio')). There were no limits on time or the type of publications. **Results** The search yielded 12,056 results; however, only 15 papers shared the search terms of concentration, dose, clozapine, norclozapine, ratio, and therapeutic drug monitoring. **Discussion** The CLZ therapeutic range has been found between 350 to 600ng/mL, but a large number of patients with TRS may not require TDM. Nevertheless, TDM can be extremely useful in patients who fail to respond to and/or tolerate conventional CLZ doses. Thus, before labeling a patient as a CLZ non-responder, all potential reasons for lack of response should be ruled out as CLZ remains the only antipsychotic medication with established efficacy in TRS. Although both low and high CLZ levels can be problematic, elevated levels not only compromise clozapine's efficacy but also expose patients to clinically serious dose-dependent adverse effects. Altered levels of clozapine can be genetically mediated as well as due to drug

interactions. Therapeutic drug monitoring provides clinically useful information by utilizing the ratio between the plasma levels of CLZ and its primary metabolite, norclozapine (NCLZ) (i.e., CLZ/NCLZ), and to a lesser extent between CLZ & NCLZ concentrations and dose (i.e., C/D). Each of these methods is easily calculable and provides a clinically meaningful but somewhat different pharmacokinetic interpretation to optimize CLZ treatment.

#### **No. 76**

##### **Serotonin Syndrome in a 50-Year-Old Female: A Case Report**

*Poster Presenter: Bilal Ali Khan, D.O.*

*Co-Authors: Bretty Aziz, Nathan Hoff, M.D.*

##### **SUMMARY:**

Serotonin syndrome is a potentially life-threatening condition caused by increased serotonergic activity in both the central and peripheral nervous system that occurs acutely following serotonin exposure. Differential diagnosis includes the following: neuroleptic malignant syndrome, anticholinergic toxicity, malignant hyperthermia, antidepressant discontinuation syndrome, and alcohol withdrawal. The increased serotonin in the synapses leads to the triad of symptoms- autonomic hyperactivity, mental status change, and neuromuscular abnormalities. These can clinically manifest as hyperthermia, myoclonus, agitation, tremors, shivering, diaphoresis, ataxia, or diarrhea. Bupropion and fluoxetine are both inhibitors of CYP2D6 enzyme. Fluoxetine is also metabolized by this enzyme. Using both medications can lead to an increased fluoxetine level. Extra consideration should be given concerning drug-drug interactions of fluoxetine as its metabolite norfluoxetine has a half-life of up to 15 days. Our patient is a 50-year-old female with a past psychiatric history of depression and anxiety who presented to the ED for bilateral tremors in upper and lower limbs, stuttering, weakness, and confusion. She was on several psychotropic medications: bupropion SR 200 mg twice daily, fluoxetine 40 mg twice daily, lamotrigine 200 mg twice daily, and buspirone 15 mg twice daily. Furthermore, the patient's family suspected she had not been taking medications as prescribed. On admission, the patient was noted to have bilateral

lower extremity and upper extremity tremors, hyperreflexia, myoclonus, mild dysarthria, significant ataxia, visual hallucinations, and significant dysmetria on finger-to-nose testing. She also reported episodes of sweating and chills. Differential diagnosis included essential tremors, neuroleptic malignant syndrome, anticholinergic toxicity, malignant hyperthermia, antidepressant discontinuation syndrome, alcohol withdrawal, and hyperthyroidism. Neurology evaluated the patient and performed a CT of the brain without contrast and a MRI of the brain without contrast, both with unremarkable results and no abnormalities in EEG monitoring. According to the Sternbach's criteria, a diagnosis of serotonin syndrome was made, and the patient's fluoxetine was immediately discontinued. The patient's bupropion SR dosage was decreased to 150 mg twice daily and aripiprazole 5 mg daily was started for the hallucinations. Over the course of several days, the patient's symptoms began to improve, and she was discharged when close to baseline. This case illustrates the potential for severe side effects that may result from interactions between multiple serotonergic agents. While the true incidence of SS is unknown, it is commonly seen in patients prescribed SSRIs. Prevention and recognition of this potentially life-threatening syndrome should be at the forefront of anyone prescribing serotonergic agents, especially psychiatrists.

#### **No. 77**

##### **The Curious Case of Olanzapine-Induced Hypoglycemia**

*Poster Presenter: Harsimar Kaur*

*Co-Authors: Alfredo Bellon, M.D., Ph.D., Nirmal Singh, M.B.B.S.*

##### **SUMMARY:**

Introduction: Metabolic side-effects of antipsychotic' are well established and known to occur with long term use of medications. Glucose dysregulation with antipsychotics most commonly presents as hyperglycemia<w:sdt citation="t" id="78724593">(1). </w:sdt>However, in rare occasions it can lead to hypoglycemia, which can be life-threatening. We present a case of Olanzapine-induced hyperglycemia. Case: Mr. S is a 27-year-old

male who presented after an intentional overdose on 15 tablets of 15mg olanzapine. In the ED, he was hypertensive and tachycardic. His QTc was prolonged (506 ms) and he received magnesium sulfate. In addition, he was diagnosed with delirium and was admitted to the medical floor for monitoring of his mental status and vital signs. On the 2<sup>nd</sup> day of admission, he had several hypoglycemic events with glucose ranging between 59-81 necessitating several infusions of IV dextrose. Endocrinology was consulted and patient was started on hydrocortisone. He initially received 100 mg IV every 8 hrs. Eventually, he was transitioned to 50 mg BID followed by 20 mg BID, tapered to 10 mg BID and subsequently 10 mg daily. He had a comprehensive workup done including but not limited to C-peptide 1.71, cortisol 20.4, total insulin 6.4, proinsulin 5.1, IGF2 = 477, beta hydroxybutyrate <0.10 and negative sulfonyleurea screen. His initial ALT was elevated to 100 but hepatitis panel was negative. Abdominal imaging did not show any acute intraabdominal abnormalities. It took about 10 days for his glucose to normalize and eventually hydrocortisone was stopped. In the setting of negative workup, the several episodes of hypoglycemia were attributed to olanzapine. He was eventually admitted to our inpatient psychiatric unit where patient displayed significant paranoia and sleep disturbances. He was started on 2.5 mg of olanzapine but he again developed hypoglycemia therefore, this medication was stopped. After his glucose levels normalized, he was transitioned to haloperidol. His glucose levels remained within normal range throughout the rest of his hospital stay of 26 days. Discussion: Olanzapine overdose usually present as altered levels of consciousness, tachycardia, hyperpyrexia, paradoxical miosis and can even cause dead<w:sdt citation="t" id="-605962404"> (2), </w:sdt><w:sdt citation="t" id="1068079931">(3)</w:sdt>. In this case the patient took a high dose of olanzapine leading to delirium and hypoglycemia. Given the life-threatening potential of hypoglycemia, we suggest regular monitoring of glucose levels in patients presenting with olanzapine overdose.

## No. 78

### **Suvorexant, a Dual Orexin Receptor Antagonist for the Treatment of Insomnia and Craving in a Patient With Primary Insomnia and Hypnotic Dependence**

*Poster Presenter: Harsimar Kaur*

*Co-Author: Jatinder Singh, M.D.*

#### **SUMMARY:**

INTRODUCTION:Suvorexant is an orexin 1 and 2 receptor antagonist approved for the treatment of primary insomnia. Zolpidem is commonly prescribed for the treatment of insomnia but has a risk of developing tolerance and dependence that can lead to worsening of insomnia. Here, we present a case of chronic insomniac dependent on zolpidem, treated with Suvorexant which improved sleep and decreased the craving for zolpidem. CASE: Patient is a 50-year-old female with BMI of 30, history of MDD being treated with Fluoxetine and Quetiapine. She presented with a 5-year history of difficulty falling and staying asleep. She reported daytime sleepiness with decreased attention and concentration and fatigue at work. Her family physician had unsuccessfully trialed several hypnotics over the last 5 years. She consulted a sleep physician at an outside facility and a polysomnography (PSG) was ordered. Per the PSG, she had a sleep latency of 42 minutes, total sleep time of 330 minutes with a sleep efficiency of 65 %. She was started on Zolpidem 10 mg at night, on which she slept for 3 to 4 hours. She later increased the dosage to 3 to 4 tablets of zolpidem 10 mg at night due to multiple awakenings every 2 hours. Patient reported feeling frustrated as well as significant craving for zolpidem when she woke up at night. She would run out of her medications before she would be due for the next prescription. She also underwent withdrawal symptoms including shaking, shivering, and sweating. In addition, she experienced worsening depression and passive death wishes. At this point, she was evaluated in our clinic and was started on Suvorexant 10 mg that was titrated up to 15 mg due to partial response. There was significant improvement in her night time sleep as reported by the patient and charted on sleep diaries. Her sleep latency was reduced with increase in total sleep time, increased sleep efficiency, decreased night time awakenings to less than a minute and overall sleep quality. She did not crave for zolpidem and her



day time functioning improved. She reported improvement in her mood and denied passive suicidal ideations. Her depression medical regimen remained unchanged through this period.

DISCUSSION: The American Academy of Sleep Medicine recommends Suvorexant for the treatment of sleep onset and sleep maintenance in patients with primary insomnia. Despite primary reports of zolpidem being safe with low abuse and dependency capability (1) there were subsequent reports of zolpidem being associated with abuse and dependency (2), especially in elderly due to decreased clearance of zolpidem which could possibly lead to dependence (3). Orexins are most notably known to regulate arousal, appetite, and reward (4). Further studies should explore the effectiveness of this novel drug on sleep and craving in substance use disorder patients, elderly patients, and patient having higher risk of abuse while on other traditional hypnotics widely used for sleep disturbance.

#### **No. 79**

##### **Empowering Patients and Families in Mental Health Care: Development of a Patient and Family Advisory Council in an Outpatient Psychiatric Setting**

*Poster Presenter: Jacob S. Hartman, M.D.*

*Co-Authors: Shaina Siber-Sanderowitz, L.C.S.W., Ana Ozdoba, M.D.*

#### **SUMMARY:**

The concept of patient-centered care emerged in the field of psychiatry in the late 1960s. Psychiatry, with its emphasis on the biopsychosocial approach and the patient's subjective experience, was the natural breeding ground for this idea. However, psychiatrists have been hesitant to adopt this approach because many psychiatric illnesses impair patients' ability to dictate the policies that guide their healthcare. Efforts to enhance patient-centered care in psychiatry consequently present unique opportunities and challenges. At Montefiore Medical Center/Albert Einstein College of Medicine Department of Psychiatry and Behavioral Sciences, we decided to advance patient-centered care by establishing a patient-family advisory council (PFAC). A PFAC is a group of patients and family members of

patients who collaborate with clinicians and staff to shape a healthcare system's policies and research initiatives and improve quality and safety of patient care. This approach has been adopted in numerous fields of medicine. To our knowledge, though, there are no publications describing the establishment of a PFAC in a general outpatient psychiatry clinic. We will demonstrate the steps taken toward the development of a PFAC within an ambulatory psychiatry clinic in an academic medical center that serves a diverse, multicultural, and underserved patient population in the Bronx, NY. We will discuss the initial stages of development, including engagement of departmental leaders, residents, and staff. We will describe the six target areas of our PFAC: patient organization and group identity, conveying information to patients, obtaining patient feedback about the clinic, responding to patient feedback, representing clinic patients within the broader hospital system, and helping clinic patients serve as advocates for their fellow patients. We will describe ways in which the PFAC will address these six target areas and details of our PFAC's structure and functions. We will also discuss initial challenges in implementation, including member selection, patient confidentiality, and selection of quality measures to assess PFAC effectiveness. Most of our clinic's patients face multiple structural inequities that impact their mental health and access to care. Moreover, during the height of the COVID-19 pandemic, as our clinic transitioned to telepsychiatry, our patients became physically distanced from the clinic. The PFAC was conceived out of a need to address these inequities. It does so by empowering patients to shape their mental healthcare, guide hospital policy that impacts their care, and advocate for fellow psychiatric outpatients. The PFAC also enables clinicians to learn first hand about the structural challenges faced by our patients. By sharing the initial stages of the development of this council, we hope to motivate other departments of psychiatry to engage their patients in playing an active role in the systemic and organizational aspects of their care.

#### **No. 80**

##### **ED High-Utilizers: A Mission to Address Substance-Related Disorders**

*Poster Presenter: Rohn Nahmias*

*Co-Authors: Kierra Hayes, Kimberlie Wells*

**SUMMARY:**

Introduction: Emergency departments (EDs) are the gateway to the inpatient healthcare world, however when rooms are not available for patients to be seen, the chain is broken and patients cannot receive the help they need. One of the largest, most avoidable, culprits of this issue is related to substance use, with alcohol-related issues being the most common and most expensive of all ED interventions (Karaca, 2020). In 2010, visits to the ED in the United States for alcohol related diagnosis cost nearly \$24.5 billion (Mullins, 2014). By analyzing data from the Community Hospital North (CHN) ED, and taking a closer look at patients who have substance use concerns, processes can be improved to streamline visits. By decreasing the number of visits from those with substance use related problems, rooms in the ED will be available on a more regular basis, and wait times in the department could significantly drop. With lower wait times in the ED, more patients can be served, and better quality care can be provided all around. Methods: To collect data surrounding ED visits from those with a substance use issues, residents collected data from the electronic medical record, EPIC. The team filtered for all patients ages 18 and older who had at least one visit to the CHN ED with substance use documented from July to October 2020. Substance use disorders were defined as stated in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition. This search generated 684 charts, and 40 charts were randomly selected from each month selected. Each chart was evaluated for several factors that depicted the ED stay. Additionally, the list was narrowed to patients with two or more visits to the ED for alcohol-related disorders within those four months. The data collected was analyzed by the team to establish common factors and patterns that could contribute to overcrowding in the CHN ED. Results: After analysis, it was discovered that out of 96 visits included, only once had case management or social work seen the patient. On review of the encounter, there was no documentation of resources provided, only that the patient had been provided with bus tickets. Out of those same visits, three ended with patients being sent directly to an addiction

treatment clinic, and 16 others were provided the name, address, and phone number of the clinic on after visit summary. Discussion: Nearly half of all ED visits in the United States are related to substance use disorders (The DAWN Report, 2010). However, there is a gap in linking patients with substance use disorders to appropriate outpatient resources. The data collected was in line with prior research, and alcohol continued to be the most frequently involved substance related visit to ED visits. It is the team's hope that by providing education and developing a process to close the treatment gap between the ED and outpatient providers, patient care will improve and the burden placed on the ED system will lighten.

**No. 81**

**An Intervention to Reduce Chronic Benzodiazepine Use in the Adult Outpatient Setting**

*Poster Presenter: Khushbu Majmundar, M.D.*

*Co-Authors: Carisa Kymissis, M.D., Amy Swift, M.D., Kecia-Ann Blissett*

**SUMMARY:**

**Background:** Benzodiazepines (BZD) are the most commonly prescribed controlled substance in psychiatry. While BZD are used to treat many conditions, even when taken at recommended doses, they can lead to abuse and addiction. BZD, most commonly prescribed for anxiety related disorders, are being prescribed more often over the past 20 years (Bachhuber et al 2016) and at escalating doses than they had been previously (Kroll et al 2016). Studies have linked BZD use to falls, cognitive decline, delirium and sedation leading to impaired function (Lader 2011). Increased attention has been paid to the harmful effects of BZD; the FDA recently required a Boxed Warning update in September 2020 to address the serious risks of abuse, addiction, physical dependence, and withdrawal reactions for all BZD medications.

**Methods:** This IRB approved study purposes to look at the prescribing practices of BZD in a large inner city psychiatric clinic before and after the distribution of patient information on BZD. This is a pre-post study based on patients admitted to the outpatient psychiatric clinic at Mount Sinai Beth Israel from June 1, 2021 to July 1, 2022. Inclusion

criteria includes admission to outpatient psychiatry clinic and patients prescribed any medication in the class of BZD in clinic. Exclusion criteria include children. The project aims to study the demographics of the population that is being prescribed BZD, as well as an analysis of the impact of patient education flash cards on BZD prescribing practices before and after policy implementation and distribution of education materials. One prior published study has indicated a reduction in BZD prescribing practices after an intervention has been made and we aim to study this in an academic center to further contribute to the literature on BZD practices (Creupelandt et al 2019). **Results:** Pre-study data obtained prior to implementation of intervention in July 2021 show that total of 264 patients in clinic were prescribed BZD. Of those individuals, 86% had been prescribed BZD for more than one year and 14% were prescribed for less than a year. 55% were resident-prescribed, while 45% attending-prescribed. 34% were geriatric patients (>65 years old), while 76% were adults (18-65 y/o). Data of prescribing practices will be obtained six months and twelve months after the implementation of policy as described above. Statistical analysis will evaluate if patient education flashcard implementation had a statistically significant effect on the prescribing practices in our outpatient clinic. The hypothesis is that these minimal risk interventions by the clinic can have a significant effect on the amount of prescriptions written. The secondary hope is that judicious prescribing would limit the threat of non-medical use and decrease the possibility of adverse events. The goal of this study is to improve standard of care, while simultaneously testing the effectiveness of the policy in a standardized way.

#### **No. 82**

##### **Effectiveness of a Computer Reminder System for Monitoring of Metabolic Syndrome in Patients on an SGA in a Psychiatric Training Outpatient Setting**

*Poster Presenter: Mary Elizabeth Phelps, D.O.*

*Co-Author: Olivia Gawrych, M.D.*

#### **SUMMARY:**

**Background:** Patients taking second-generation antipsychotics (SGA) have been found to have a

higher risk of metabolic syndrome. Guidelines have been established for monitoring metabolic labs in patients taking these medications, however the rate of compliance with these in the outpatient clinic setting have generally been low. There have been several studies examining the effect of computer reminders on monitoring compliance that have shown significant improvements in baseline monitoring but, to date, only one has looked at the impact on long term monitoring. Moreover, none have looked at academic training clinics where the yearly turnover of resident physicians makes long-term monitoring even more challenging. Our objective is to explore the effectiveness of a computer reminder system in improving long term metabolic lab monitoring in patients on second generation antipsychotics in a resident outpatient psychiatric clinic. **Method:** A protocol for metabolic lab monitoring on patients taking atypical antipsychotics was created and an EMR-based reminder system was implemented on April 15<sup>th</sup> 2021. Residents received training on guidelines and use of reminder system. For all patients started on an atypical antipsychotic after April 15<sup>th</sup> 2021, residents were asked to follow guidelines by checking metabolic labs at baseline, 3 months, and 1 year. After ordering each set of labs they were instructed to enter into the EMR system a reminder for the next date monitoring labs are due. **Analysis:** Data will be collected via chart review. The primary outcome variables will be percent of patients started and maintained on SGA's who had metabolic monitoring labs ordered at the baseline, 3 month, and 1 year time points. A regression analysis will be conducted with patient age, gender, and race as covariates. Pre-intervention data on 187 SGA treatment episodes (July 2019 through April 15, 2021) have been collected and results will be presented. We will continue to collect data until an equivalent number of post intervention treatment episodes have been completed.

#### **No. 83**

##### **Racial and Ethnic Disparities in Restraint and Seclusion Usage on an Inpatient Child and Adolescent Psychiatric Unit**

*Poster Presenter: Julia Corbett Ronecker, D.O.*

*Co-Author: Suzanne Sampang, M.D.*

**SUMMARY:**

**Background:** Restraint and seclusion interventions are utilized on inpatient psychiatry units for youth at risk for harming themselves or others. Racial disparities in these interventions have been reported in the literature and disproportionately occur in Black, biracial, and Hispanic youth. Our primary objective was to compare inpatient restraint and seclusion events in racial minorities compared to non-Hispanic White patients. **Methods:** This retrospective study involved reviewing pediatric admission encounters (age 3-21 years) admitted to a large child and adolescent psychiatry inpatient unit (n=8028) between January 2019-May 2021. We examined the association between race and mechanical restraint (MR), physical restraint (PR), and seclusion (S) rates per 1000 patient encounters, controlling for age, sex, length of stay, prior admissions, zip code and associated social deprivation index. Adjusted odds of undergoing a seclusion or restraint event during an admission were calculated for each race using a generalized linear binary logistic model. **Results:** Approximately 15% of encounters (n=1,181) had at least one intervention, with an average of 0.96 mechanical restraint, 12 physical restraint, and 5.7 seclusion incidents per 1000 patient days. Significant factors associated with PR included male sex (adjusted odds ratio [aOR]=1.54, 95% confidence interval [CI] = 1.28-1.86), being biracial (aOR = 1.86, 95% CI=1.35-2.53) or Black (aOR = 2.02, 95% CI=1.61-2.54) compared to non-Hispanic White children, and being between 3-8 years old (aOR = 4.82, 95% CI =3.60-6.45). Significant factors associated with S included male sex (aOR= 2.61, 95% CI=1.89-3.62), being biracial (aOR = 1.82, 95% CI=1.10-3.07) or Black (aOR = 1.50, 95% CI=1.10-2.13) compared to non-Hispanic White children, and being in the oldest age group between 15-21 years old (aOR=3.52, 95% CI=2.15-5.75). Longer hospitalizations were also correlated with greater risk for restraint and seclusion incidents. There were no associations found for mechanical restraint use, Hispanic or other ethnicities (Asian, American Indian, Alaskan Native, Middle Eastern), and social deprivation index based on zip code. **Conclusion:** Black and biracial youth were restrained and secluded more frequently than non-Hispanic White youth, even when adjusting for numerous patient demographics and encounter characteristics. Factors

contributing to these racial disparities, including structural racism and implicit bias, warrant further investigation.

**No. 84****Addressing Length of Stay and Direct Admissions to an Enhanced Care Unit: A Quality Improvement Study to Improve Racial Disparities**

*Poster Presenter: Julia Corbett Ronecker, D.O.*

*Lead Author: Katherine Zappia, M.D., Ph.D.*

*Co-Author: Suzanne Sampang, M.D.*

**SUMMARY:**

**Background:** Quality improvement (QI) projects can identify and address health disparities. At one 40-bed adult psychiatric inpatient unit with a separate 6-bed high-acuity Enhanced Care Unit (ECU), Black males had longer average ECU days compared to White males between October 2019-September 2020 (23% vs. 13%,  $p<0.05$ ). Black males were also more likely than White males to be directly admitted to the ECU from our psychiatric emergency room or medical floor (27% vs. 18%,  $p<0.05$ ). Our group postulated that patients may be negatively impacted from ECU time in excess of clinical indication due to increased social density and reduced therapeutic groups and activities. Thus, our primary outcome was to reduce average ECU days and direct admissions for admitted patients, with particular focus on Black males. **Methods:** Third-year psychiatry residents implemented several interventions during October 2020-March 2021, including education of racial differences with unit staff, facilitating two daily interdisciplinary team conversations about ECU patient placement, and implementing a daily dot phrase tracking system within the electronic medical record. We utilized the Model for Improvement and modified Plan-Do-Study-Act (PDSA) cycles to evaluate for intervention effectiveness and make appropriate adjustments. Percent ECU days and percent direct admits were calculated for monthly encounters and then averaged over nine months, including three additional months to measure intervention sustainability. **Results:** During the QI period, ECU patient placement conversations were occurring daily, and average daily dot phrase usage was 25% ( $\pm 19\%$ ). Between October 2020-June 2021, average

percent ECU days reduced to 20% for Black males (from 23%,  $p>0.05$ ) and 12% for White males (from 13%,  $p>0.05$ ) and direct admission reduced to 24% for Black males (from 27%,  $p>0.05$ ) and 15% of White males (from 18%,  $p>0.05$ ). Statistically significant differences still existed in average percent ECU days and direct admission between races, suggesting possible confounders such as diagnosis, population demographics, or implicit bias. Though there was no significant median shift for average ECU days, the direct admissions run chart had an average median shift toward goal. There was also evidence for less sustainability post-intervention on the direct admissions run chart. **Conclusion:** Our preliminary study demonstrated some benefit of QI interventions on addressing the racial equity gap in psychiatric care. We were able to identify racial disparities, tailor interventions for an inpatient psychiatry unit, demonstrate subtle improvements in direct admissions to the ECU, and plan to advocate for additional interventions, resources, and programming to drive further change.

#### No. 85

##### **Coping on the Wards: A Prospective Study of Student Well-Being in the First Year of Clinical Rotations During the COVID-19 Pandemic in New York City**

*Poster Presenter: Alexandra Morgan Saali, B.A.*

*Co-Authors: Emma Stanislawski, M.D., Elizabeth B. Magill, B.A., Craig Katz, M.D.*

#### **SUMMARY:**

**Background** Medical students identify the transition from classroom to clinical rotations as particularly stressful. For students first entering the wards in June 2020, COVID-19 threatened to amplify the stress of clerkship rotations. This study aimed to (1) characterize the longitudinal mental health of students starting clerkship rotations as well as (2) identify stressful events encountered while navigating the wards in the midst of a pandemic.

**Methods** Of 147 students at Icahn School of Medicine at Mount Sinai entering their first clinical year, 81 (74.3%,  $n=147$ ) completed all four quarterly surveys from June 2020-June 2021 and were included in longitudinal data analysis. Major depressive disorder (MDD), generalized anxiety

disorder (GAD), and posttraumatic stress disorder (PTSD) symptoms were measured with the Patient Health Questionnaire-9, Generalized Anxiety Disorder-7, and the Posttraumatic Stress Disorder Checklist-5, respectively. Surveys also asked students about stressful events and if they were COVID-19-related, clerkship-related, or traumatic as defined by the DSM-V. Multiple linear regression models and relative importance analyses were conducted at baseline, and descriptive statistics and McNemar's test for paired mental health outcomes data were completed at each timepoint. **Results** Twenty-four (29.6%), 34 (42.0%), and 34 (42.0%) students screened positive in at least one survey for symptoms of MDD, GAD, and PTSD, respectively. There were no statistically significant differences in mental health scores over time except increased PTSD symptoms in June 2020 compared to February 2021 ( $p=0.007$ ). COVID-19 worries did not significantly influence outcome variables at baseline. Over the course of their clerkship rotations, students reported 226 stressful events, 43 (19%) of which were deemed traumatic. Traumatic events increased across the surveys with a maximum of 20 events reported in February 2021. The majority of reported events were classified as clerkship-related (79%,  $n=180$ ). While 50 (27.8%) students reported no events, 52 (28.9%) reported one, 60 (33.3%) reported two, and 18 (10%) reported 3 or more clerkship-related events. Only 37 events were identified as directly related to COVID-19, with 62% of those reported in February 2021. **Conclusions** While both the peak of COVID-19 cases in New York City and the highest number of COVID-19-related events occurred over the winter quarter, students reported the greatest anxiety, depression, and PTSD symptoms at the onset of clinical rotations. At that time, self-identified COVID-19 fears did not play a significant role in their reported distress, and throughout the entire clerkship period, few COVID-19-related events were reported. Clerkship related events were more prevalent and appeared more impactful.

#### No. 86

##### **Long Post-Covid Psychosis: A Case Report**

*Poster Presenter: Eric Zabriskie*

*Co-Author: Amanda Satterthwaite*

**SUMMARY:**

Introduction Recent large retrospective cohort studies on patients with COVID-19 infection suggest an increased risk of various neuropsychiatric sequelae during the post-infectious period. Previously, a few case reports have reported new-onset psychosis in patients with no past psychiatric history in relation to COVID-19 infection, in the majority of these cases, the psychosis was diagnosed and treated shortly after the infectious period. We present a case that did not present for new-onset psychotic symptoms, developed after coronavirus infection, for over 5 months, during which the patient suffered a durable, worsening psychosis, with catatonia. Case Description A 62-year-old female with a family history of Lupus, no past psychiatric history, presented to our Psychiatric ED with 5 months of acute psychosis following COVID-19 infection. The patient was diagnosed with Covid-19 at an outside hospital, where she presented with vertigo, 5 months prior. She had a mild course with malaise, no pulmonary symptoms, remaining afebrile, and no early psychiatric symptoms. During the past 5 months, she developed paranoid and persecutory delusions, and became convinced all appliances in the house were broken, despite the fact they were in perfect working order. She became violent toward family members who attempted to use these appliances and would not use the bathroom due to her conviction the pipes were broken. This led to severe constipation and secondary food refusal, leading to a 20+ pound weight loss during this time. She developed delusional beliefs her animals were starving during this time and appeared gaunt despite contrary evidence of their health. We collected collateral information from multiple sources confirming that patient was never diagnosed or treated for psychiatric illness. She was relatively healthy and on no other medications. There is a family history of lupus in patient's father. MRI, EEG, MOCA, and first episode psychosis labs were negative aside from a transiently positive ANA, which resolved when patient's symptoms improved. During her hospital course, the patient developed worsening staring, mutism, gegenhalten, posturing, and speech latency. She was treated for psychosis and catatonia with risperidone and ativan. She had a protracted hospital course with her catatonic symptoms particularly

difficult to control. Ultimately, she responded well to 4 sessions of ECT, returning to baseline shortly thereafter. Discussion COVID-19 can cause acute neuropsychiatric symptoms both during active infection as well as during the post-infectious period. In our case, such a presentation may have been a combination of a family history of autoimmunity, psychosocial stressors, and COVID-19 infection. We review the connections between pathogens and psychosis and review the major proposed etiologies of post viral psychosis including the mechanism of post-viral autoimmunity, which may have played a role in our case.

**No. 87****Is It Blindness, or Is It Schizophrenia? Navigating Culture and Disability in a Psychotic, Non-English Speaking Patient.**

*Poster Presenter: Jonathan Mason Allen, M.D.*

**SUMMARY:**

There are many challenges to the evaluation of patients with developmental disabilities, particularly with patients that have minimal verbal ability. This can lead to issues of diagnostic confusion (Welch et al 2011[1]). While there are connections between severe intellectual disability and positive symptoms of psychosis, there is very little literature regarding schizophrenia and cortical blindness [2]. A Pubmed search of the terms schizophrenia, blindness returned almost entirely case reports, with only one population-based study. The case report findings suggested a protective effect of cortical blindness towards schizophrenia [3] and the population study by Vera et al. demonstrated none of the 66 children with cortical blindness developed schizophrenia, in a population cohort of five hundred thousand. We were unable to find any discussion concerning patients with intellectual disability, blindness, and schizophrenia. When treating and evaluating complex patients such as these, it becomes imperative to utilize caretaker historical accounts, as well as any other forms of collateral information to help aid in the evaluation. This can become quite challenging when potential cultural differences must be accounted for. We present such a case of a 29 year-old El Salvadoran female with cortical blindness, schizophrenia, and severe intellectual

disability, who was hospitalized after her caretaker noticed an increase in disorganization, responses to internal stimuli, and agitation. She presented to the psychiatric emergency department after her mother reported she was becoming aggressive and not sleeping. On her initial evaluation the patient was poorly cooperative, disorganized, and observed responding to internal stimuli. She was provided with a constant one on one staff monitor, and started on Quetiapine, which greatly decreased her agitation. Her mother took her home shortly after, but again brought Ms. R back to the psychiatric ER with the same presentation. Once again, Ms. R was provided one on one staff monitor, which seemed to rapidly decrease her irritability. Conducting an in-depth evaluation as to the nature of her auditory hallucinations, we discovered that due to her developmental ability, her auditory hallucinations were likely an adaptation of the “invisible friend,” seen with young children. Her agitation and decompensation may have been the result of poor frustration tolerance, common in people with neurodevelopmental disorders. She improved significantly after we started aripiprazole, an atypical antipsychotic with demonstrated efficacy in treating aggression in children with intellectual disabilities [4] [5]. We provided intensive culturally-sensitive counseling to her mother and Ms. R was discharged back home, where she has had no further episodes of agitated behaviors. In this poster, we discuss the challenges and clinical dilemmas that arise when attempting to treat highly marginalized patient populations.

**No. 88**  
**Childhood Sexual Trauma Increases Impulsivity in Patients With Schizophrenia and Decreases Length of Hospital Admission**

*Poster Presenter: Amanda Actor, M.D.*

*Co-Authors: Jeff Wang Jin, Christopher Gurguis, M.D., Tyler Kimm, M.D., Teresa Pigott*

**SUMMARY:**

Schizophrenia affects approximately 1% of the population and poses a significant burden to patients and the healthcare system. Based on current diathesis stress models, childhood trauma is considered a risk factor in the development of

schizophrenia [1]. Although not typically known as a disorder of impulse control, patients with schizophrenia also tend to show a higher degree of impulsivity [2]. Here, we hypothesized that developmental changes in impulsivity caused by childhood trauma may mediate the relationship between history of trauma and treatment outcomes in patients with schizophrenia. Specifically, we examined the effects of childhood trauma and impulsivity on hospital outcomes (30-day readmission, length of stay) to better understand factors associated with disease severity [3]. We predicted that a history of childhood trauma would be associated with a higher degree of impulsivity and that high impulsivity would decrease length of stay and increase the number of 30-day readmissions. The Barratt Impulsiveness Scale (BIS) and Early Trauma Inventory Self Report (ETISR) were both administered to 104 patients diagnosed with schizophrenia, schizoaffective disorder, or schizophreniform disorder hospitalized at Harris County Psychiatric Hospital. Data on length of stay and readmission within 30 days of discharge was obtained from chart review. Direct and indirect effects of BIS and ETISR on length of stay were modeled using a general linear model. Effects of BIS and ETISR on 30 day readmission were modeled using logistic regression. The overall model examining direct and indirect effects of trauma and impulsivity on length of stay was not statistically significant in our sample ( $F=1.27$ ,  $p=0.29$ ). Childhood sexual trauma significantly increased both attentional impulsivity ( $\beta=0.60$ ,  $F=3.97$ ,  $p=0.049$ ) and motor impulsivity ( $\beta=1.00$ ,  $F=7.01$ ,  $p=0.010$ ). Patients with higher motor impulsivity tended to have a shorter length of stay, though this effect was only marginally significant ( $\beta=-0.20$ ,  $p=0.070$ ). The effects of childhood emotional or physical trauma and adult trauma on subscales of impulsivity were not statistically significant. There were no statistically significant effects of childhood trauma, adult trauma, BIS, or BIS subscales on length of stay. In patients with schizophrenia, those with childhood sexual trauma have higher attentional and motor impulsivity. In turn, motor impulsivity had marginally significant effects on length of stay, though this result is possibly limited by lack of power and the partial regression coefficient is moderately strong. These results suggest that childhood sexual trauma

in particular may pattern the ontogeny of impulsivity, which can potentially impact the clinical course of schizophrenia. Further work in this area should focus on the neurobiological basis of the effects of trauma on impulsivity to understand how such patterns arise and better guide patient care.

#### **No. 89**

##### **Perceived Stress and Cognition in Psychosis and Healthy Controls**

*Poster Presenter: Christine L. Mozer, B.A.*

*Co-Authors: Kailey Clark, B.S., Laura Crespo, B.S., Nicole Ogbuagu, B.S., Molly Erickson, Ph.D.*

##### **SUMMARY:**

**Background:** People with serious mental illness tend to report elevated levels of stress compared to the general population and evidence suggests stress plays a critical role in the development and course of psychosis.<sup>1</sup> However, the degree to which perceived stress can account for other group disparities such as impaired cognition<sup>2</sup> and poorer health outcomes<sup>3</sup> has yet to be explored. This study aimed to (1) elucidate the relationships between perceived stress and both objective and subjective cognitive functioning and (2) examine the relationship between perceived stress and self-reported medical conditions in healthy controls (HC) and individuals with psychosis (PSY). **Methods:** Eleven HC and 19 PSY (10 Schizophrenia, 1 Schizoaffective, 6 Bipolar Disorder with Psychosis, and 2 Major Depressive Disorder with Psychosis) were recruited from the community and completed a battery of symptom, cognitive, and physical health measures. Objective cognitive function was assessed using the MATRICS Consensus Cognitive Battery (MCCB) and Wechsler Abbreviated Scale of Intelligence (WASI-2), and subjective cognitive function was assessed using the Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Perceived stress was measured using the Perceived Stress Scale (PSS). Finally, the presence of common comorbid medical conditions such as diabetes, hypertension, respiratory illnesses, and chronic pain was assessed via self-report. Pearson's correlations were used to investigate the relationships between perceived stress and objective and subjective cognitive impairment, and medical conditions. **Results:**

Perceived stress was significantly higher ( $p < 0.01$ ) and objective cognitive functioning was significantly lower (MCCB, WASI-2:  $p < 0.05$ ) in PSY than in HC. In PSY, no relationship was observed between PSS and cognitive function ([MCCB:  $r = -0.14$ ,  $p = 0.68$ ] [WASI-2:  $r = 0.51$ ,  $p = 0.09$ ]); however, PSS was significantly correlated with PRECIS ( $r = 0.70$ ,  $p < 0.01$ ), indicating that higher levels of stress were associated with more cognitive complaints. PSY self-reported a significantly greater number of medical conditions ( $p < 0.05$ ), however PSS and number of reported medical conditions were not correlated ( $r = -0.31$ ,  $p = 0.28$ ). In fact, PSY reporting less perceived stress had numerically more health conditions, although this effect was not statistically significant ( $p = 0.14$ ).

**Conclusions:** Consistent with prior findings, we observed that PSY have poorer cognition and more physical health conditions than HC, as well as higher levels of perceived stress. Contrary to expectations, stress was not correlated with objective cognitive capacity or total number of reported medical conditions. These preliminary data indicate that, although perceived stress likely plays a role in the etiology of serious mental illness and associated physical ailments, the relationship between perceived stress and these outcomes is not linear and requires additional study. Grant Funding: R01 MH121671

#### **No. 90**

##### **The Use of Electroconvulsive Therapy for Mania in a Patient With Wolframs Syndrome: A Case Report and Literature Review.**

*Poster Presenter: Muniza A. Majoka, M.B.B.S.*

*Co-Authors: Robert Ostroff, M.D., Madiha Malik*

##### **SUMMARY:**

**Background:** Wolframs Syndrome (WS) is a rare autosomal recessive disorder[1], caused mostly by mutation of WFS1 gene. The reported prevalence is about 1/770,000 worldwide[2]. The mutations effect the endoplasmic reticulum leading to abnormal calcium homeostasis and improper protein production[3]. Wolframs Syndrome or DIDMOAD, an acronym for its clinical manifestation, is characterized by Diabetes Insipidus(DI), Diabetes Mellitus(DM), Optic Atrophy and Deafness(sensorineural type)[4]. Neurological



symptoms such as ataxia, and central sleep apnea may also be present. Psychiatric symptoms are reported in about 25% of the patients, with anxiety & depression being most common manifestations[5]. Studies also suggest a higher incidence of depression and suicidality in carriers of WSF1 gene[6-8]. Literature review indicates that there have been two previous reports of patients with WS presenting with mania and in both instance the symptoms were responsive to psychopharmacologic management[9, 10]. This is the first reported case of a patient with Wolframs Syndrome treated with Electroconvulsive Therapy (ECT). Case review: Our patient was a young adult, nonbinary individual (preferred pronouns “them, they”) with a history of WS since early adolescence. For them, the WS symptoms included DI, DM, limited bilateral optic atrophy, neurogenic bladder with no significant sensorineural deafness. They had a reported psychiatric history of depression and suicidal ideation in early adolescence, in the context of diagnosis of WS. They didn’t require any psychopharmacologic treatment or inpatient admission at that time and the symptoms resolved with psychotherapy. After graduation college with good academic standing, they experienced worsening anxiety & depressive symptoms, requiring Prozac. Within 4 weeks of this addition, they started to have poor sleep, increased energy, racing thoughts, risk-taking behaviors such as taking high quantities of edible marijuana, increased sexual activity, spending savings, and paranoia. Medical work-up was negative. They were hospitalized but failed to respond to Risperidone and Quetiapine. They were sensitive to Depakote, requiring low doses to achieve therapeutic levels. Even on medication, they continued to have disorganized thinking with flight of ideas, dysphoria, paranoia, and poor sleep. Psychometric testing showed Youngs Mania Rating Scale (YMRS): 9, Brief Psychiatric Rating Scale(BPRS):25. They were then started on Ultra Brief Right Unilateral ECT. They received an acute course of 10 sessions. They responded very well to the course with remission of symptoms. Post treatment testing showed the following scores: YMRS: 0, BPRS:18. A successful down taper of ECT was started at that time. Conclusion: WS is a disorder with various psychiatric manifestations. Our case illustrates that, although mania is not widely documented, it is a possibility to

consider. Further, we showed the safety and efficacy of using ECT in WS.

#### **No. 91**

### **Electroconvulsive Therapy in a Patient With Idiopathic Intracranial Hypertension and Drug-Refractory Major Depressive Disorder**

*Poster Presenter: Max Parker*

*Co-Author: Brent R. Carr*

#### **SUMMARY:**

**Introduction:** Electroconvulsive Therapy (ECT) has long been hailed as an effective treatment for a variety of mood disorders while remaining relatively free of contraindications to its use. Electroconvulsive Therapy has been thought to elevate intracranial pressure (ICP), however, the mechanisms behind this have been challenged and remain unclear. Nevertheless, caution is issued for patients wishing to undergo ECT that suffer from conditions that increase intracranial pressure (ICP), such as cerebral neoplasm. One such cohort of patients that retains such a risk is those who suffer from Idiopathic Intracranial Hypertension (IIH) which commonly co-exists with psychiatric co-morbidities. The literature surrounding patients with IIH who receive ECT remains sparse, with only two case reports currently noted in the literature to our knowledge. The following seeks to present our own case of a patient with IIH who suffers from severe, refractory Major Depressive Disorder (MDD) who wished to undergo ECT. Specifically, we aim to present our methodology for medical clearance surrounding IIH before ECT, monitoring for elevated ICP, navigation of treatments, **Results:** Initial Evaluation revealed met DSM-V criteria of severe, recurrent, MDD with psychotic features, Chronic Post-traumatic Stress Disorder (PTSD), and Generalized Anxiety Disorder. Also of note, the PHQ-9 score was 27/27, and the GAD-7 score was 21/21. Base-line lumbar puncture revealed an opening pressure of 24 cm H<sub>2</sub>O (NI < 25 cm H<sub>2</sub>O) after treatment with Diamox therapy. Neuro-Ophthalmology fundoscopic and optic nerve imaging with serial follow-up (q4 months) is used to monitor for a resurgence. Relevant Magnetic Resonance Imaging of the brain revealed tortuous optic nerves and an empty Sella Turcica that are classic findings in

IIH and evidence prior elevations in ICP before Diamox therapy. Our patient has safely received 11 treatments of ECT with common transient side effects (i.e., headache) noted. The patient has yet to achieve remission of psychiatric disease, but treatment and evaluation are ongoing. **Conclusion:** We propose that patients with IIH remain eligible for ECT despite a current or past history of elevated ICP. A multi-disciplinary approach extending from to involving Psychiatry, Neurology, Neuro-ophthalmology, and Anesthesiology remains key to reducing complications with the ultimate goal of alleviating the patient's long-standing suffering. Furthermore, this study adds to the paucity of literature surrounding the safe treatment of patients diagnosed with IIH suffering from concurrent mood disorder with ECT and reinforces the lack of any absolute contraindications.

#### **No. 92**

##### **Use of smartphones, mobile apps and wearables for health promotion by people with anxiety or depression: An analysis of a nationally representative survey data**

*Poster Presenter: Henry Kosorochi Onyeaka, M.D., M.P.H.*

#### **SUMMARY:**

**Background:** People with mental illness have increased cardiovascular risk factors, which contributes significantly to mortality in this population. Digital interventions have emerged as promising models to promote physical health, although their potential for use in mental health populations is relatively unexplored. **Objective:** We examined the potential for using digital tools for health promotion by people with common mental disorders like anxiety or depression. **Methods:** Using data from the 2019 edition of the Health Information National Trends Survey (HINTS 5), we evaluated differences between individuals with a self-reported history of diagnosed depression/anxiety and the general population with respect to ownership, usage, and perceived usefulness of digital tools for managing their health. **Results:** Overall, individuals with anxiety or depression were as likely as the general population to use digital devices for their care. Those with anxiety or depression who had

health apps were more likely to report intentions to lose weight than those without health apps. Significant socio-demographic predictors of digital tools usage included gender, age, income, and education level. **Conclusion:** People with anxiety or depression own and use digital health tools at similarly high rates to the general population, suggesting that these tools present a novel opportunity for health promotion among people with these disorders.

#### **No. 93**

##### **Racial/Ethnic Differences in Adverse Childhood Experiences and Health-Related Outcomes**

*Poster Presenter: Phillip Yang, M.A.*

*Co-Authors: Larisa Albers, Timothy Grigsby*

#### **SUMMARY:**

**Background:** Traumatic life-course events, such as adverse childhood experiences (ACEs), have been identified as a social determinant of mental health that can produce toxic stress leading to maladaptive brain development and negative health outcomes. ACEs are commonly defined as childhood abuse, neglect, and household dysfunction and have a graded relationship with poor mental and physical health. Black, Indigenous, and People of Color (BIPOC) communities may be especially vulnerable to traumatic experiences associated with negative health outcomes. However, little is known about how race/ethnicity moderates the health-related impacts of ACEs. This review highlights racial/ethnic differences associated with ACEs and identifies new research directions. **Methods:** The PRISMA extension for scoping reviews (PRISMA-ScR) protocol was used to structure this review. Articles were systematically obtained from PubMed, Google Scholar, and PsycINFO using database search keywords with three sets of AND terms (ACEs; race/ethnicity; survey). Articles were excluded if ACEs were not the independent variable and health outcomes were not the dependent variable. Of the 122 articles identified, 21 were included in the analysis after applying inclusion and exclusion criteria. The matrix method of literature review was utilized to extract study details and qualitatively analyze the data. **Results:** Selected articles showed a consistent pattern between increasing number of

ACEs and severity/prevalence of poor outcomes among all races/ethnicities. However, compared with non-Hispanic Whites, Blacks and Hispanics with more ACEs are more likely to experience substance abuse, poor general health, asthma, committing a sexual offense, being overweight, or dropping out of school. Non-Hispanic Whites with more ACEs are more likely to suffer from depression and antisocial behavior than Blacks and Hispanics. American Indians with more ACEs are more likely to have PTSD and experience substance abuse than non-American Indians. **Conclusion:** Childhood trauma does not affect all races/ethnicities equally. Findings from this review suggest following ACE exposure, BIPOCs experience worsened health and behavioral outcomes while non-Hispanic Whites experience worsened mental health outcomes. Several areas of future research have been identified. First, while there are many studies that look at descriptive differences of trauma among race/ethnicity, few papers used race/ethnicity as a moderating variable. This relationship is important to developing culturally sensitive trauma-informed care protocols. Second, further guidance on standardization of trauma questionnaires and consistency of surveying would promote inter-study comparability. Finally, further research is needed with Asian Pacific Islander subgroups as they remain understudied.

#### No. 94

##### **A Personalized, Telehealth Music Therapy Intervention for Lonely Older Adults: A Feasibility Study**

*Poster Presenter: Nichola Rose Haddad, M.D.*

*Co-Authors: Hema Kher, Benjamin Zide, Maria Hernandez, Nancy Donovan*

#### **SUMMARY:**

**Background:** Music listening interventions, facilitated by a qualified music therapist, have been shown to reduce late-life depression and anxiety but their impact on loneliness has not been well-studied. Risks associated with loneliness in older adults include depression, cognitive decline, poorer disease outcomes and premature mortality. This study evaluated the feasibility of a remotely delivered, personalized music therapy intervention for older adults living alone during the COVID-19 pandemic,

and assessed measures of socioemotional well-being before, during, and after the intervention. **Methods:** We recruited community-dwelling cognitively unimpaired older adults who lived alone, endorsed loneliness and were able to use Zoom video conferencing. Individuals with cognitive impairment (TICS < 31), moderate-severe depression (GDS > 10), or hearing impairment were excluded. Eight weekly, individual music therapy sessions were conducted with a board-certified music therapist via Zoom to develop personalized music playlists and to learn specific music listening techniques. Participants listened to playlists for one hour daily, completed a daily journal, and answered online questionnaires at weeks 0 (pre), 4 (mid), and 8 (post). The primary outcome was the PROMIS Social Isolation Scale [PROMS] score. Other questionnaires included the Behavioral Activation for Depression Scale [BADSD], Positive Affect and Well-Being Scale [PAWB], Perceived Stress Scale [PSS], Brief Symptom Inventory [BSI], and the Snaith-Hamilton Pleasure Scale [SHAPS]). Qualitative data were collected at week 8 for thematic analysis. **Results:** From March to August 2021, 11 participants were enrolled (mean age 74.82 [66-85], 88% women), five completed the study, and one dropped out, leaving five actively enrolled. Among those who completed, numerical scores for loneliness and all other outcomes changed in an improved direction, except for the mean PSS score, which was unchanged. Pre- and post-study mean scores and baseline standard deviation for those who completed are reported: PROMS ( $\bar{x}$ =19.8, 15.2;  $sd$ =6.72), BADSD ( $\bar{x}$ =35.6, 42.8;  $sd$ =12.09) PAWB ( $\bar{x}$ =32.4, 38.6;  $sd$ =8.14), PSS ( $\bar{x}$ =11, 11.4;  $sd$ =7.18), BSI ( $\bar{x}$ =0.64, 0.49;  $sd$ =0.57), SHAPS ( $\bar{x}$ =48.8, 52.2;  $sd$ =5.17). Qualitative interviews were notable for themes of joy and improvements in sleep, health, focus, and physical pain. Participants also reported increased connectedness to culture, country of origin, loved ones, and the music therapist. **Conclusion:** Recruitment and participant acceptability of a virtual, personalized music therapy intervention have been positive. Interim data analysis points to a possible improvement in loneliness and other outcome measures, though limited by low statistical power. Music therapy appears to be a novel and feasible approach to address loneliness and

emotional wellbeing in at-risk community-dwelling older adults.

**No. 95**

**Evaluating the Data of Patient Scales (PHQ-9, BDI, GAD-7) From the Lehigh Valley Health Network (LVHN) Transcranial Magnetic Stimulation (TMS) Program**

*Poster Presenter: Courtney H. Chellew, D.O.*

*Co-Author: Eugene H. Kim, M.D.*

**SUMMARY:**

**Background** Transcranial Magnetic Stimulation (TMS) is a non-invasive neuromodulating treatment for depression in adults (1). The FDA approved this treatment for the indication of adult depression in 2008 and since then several different TMS machines have been approved, as well as expanding indications for use of TMS. TMS can be administered in place of or as adjunct to conventional antidepressant treatment (SSRIs and/or psychotherapy, for instance). **Methods** TMS was introduced at a large health network in June 2018 for treatment resistant Major Depressive Disorder. As part of routine clinical care, patients were administered three symptom rating scales before, during, and after completion of TMS. Patient Health Questionnaire (PHQ-9) and Beck Depression Inventory (BDI) both measured symptoms associated with depression and the Generalized Anxiety Disorder Scale (GAD-7) measured symptoms associated with anxiety. Authors reviewed the patient-completed symptom scales from 6/2018 to 10/2020 to assess treatment response and remission rates as measured by these scales.

**Results/Discussion/Conclusions:** In total, 77 patients completed TMS treatment during this time period, with pre- and post- treatment scores for the three scales assessed. Regarding the PHQ-9 scales, 66% indicated symptom response and 26% indicated remission of symptoms. Regarding the BDI scales, 79% indicated symptom response and 50% indicated remission of symptoms. Regarding the GAD-7, 51% indicated symptom response and 38% indicated remission of symptoms. **Conclusions/Implications:** TMS response and remission rates at this large health network compared very favorably with naturalistic studies that showed a 58% response rate

and 37% remission rate. (3). TMS is an effective modality for treatment resistant depression. Further analysis of intra-treatment rating scales may yield useful information regarding the optimal length and number of TMS treatments.

**No. 96**

**WITHDRAWN**

**No. 97**

**Witchcraft or Catatonia: An Unusual Presentation of Postpartum Psychosis With Cultural Factors Affecting Diagnosis and Treatment**

*Poster Presenter: Saumya Bhutani, M.D.*

*Co-Author: Jessica Cosgrove, D.O.*

**SUMMARY:**

A 32-year-old G2P2002 Latinx female is psychiatrically admitted for fluctuating disorganization, internal preoccupation, and bizarre behavior at four months postpartum. The patient had a medical hospitalization for altered mental status two weeks prior to psychiatric admission during which time medical work-up was negative. Throughout treatment the patient has poor response to antipsychotics. The patient begins exhibiting signs of catatonia and is started on benzodiazepines but does not respond either. The patient's family is guarded around her symptoms and endorse belief that the patient has been cursed. They do not believe medications or ECT are appropriate and request the patient be discharged to perform an exorcism. Further collateral reveals a history of psychiatric hospitalization with antipsychotic treatment. Postpartum psychosis becomes higher on the differential as this previous psychiatric presentation suggests a possible diagnosis of bipolar disorder. Through working with the family, alongside chaplain services, the treatment team starts the patient on lithium. The patient's symptoms resolve within a week of lithium treatment along with high dose antipsychotic and benzodiazepine. Based on the patient's response to this treatment, postpartum psychosis is considered the leading diagnosis. Postpartum psychosis is a psychiatric emergency with an increased risk in women with bipolar disorder as this patient may have had. Postpartum psychosis is often difficult to

diagnose given the heterogenous presentation. This case highlights the need for flexibility in defining the postpartum period beyond the first six weeks when considering postpartum psychosis. Postpartum psychosis should also be considered in a postpartum patient with catatonia as catatonia is present in an estimated 20% of cases. Cultural factors influence time to presentation and approach to treatment.

#### **No. 98**

##### **The Impact of COVID-19 Lockdowns on Prevalence of BPSD and Its Management:: A Systematic Review**

*Poster Presenter: Swar Shah*

*Co-Author: Shabbir Amanullah, M.D., D.P.M.*

#### **SUMMARY:**

**Background:** Behavioural and Psychological Symptoms of Dementia (BPSD) are a group of neuropsychiatric symptoms that occur in PwD that comprises of changes in mood, perception, and thoughts. This systematic review will serve to assess the literature on the effects of COVID-19 quarantine-lockdown on BPSD prevalence. Furthermore, it will also highlight management strategies that have shown promise in managing patients in situations such as the lockdown. **Methods:** We performed the search using the Databases: Medscape, CINAHL, and PsycINFO. The inclusion criteria were: i) English-based articles; ii) Published in peer-reviewed journals; iii) Published in or after January 2020; iv) Focused on dementia patients and BPSD during COVID isolation; v) Original research. The exclusion criteria were: i) Not focused on dementia patients, ii) Case studies. A total of 11 studies for effect of COVID-19 lockdowns on BPSD were chosen for the review. For management strategies, a manual search was done using the search terms “management”, “BPSD”, “COVID”, and “neuropsychiatric symptoms”. The inclusion criteria were: i) Published in English, ii) Published in peer-reviewed journal, iii) Published in or after January 2020, iv) focused on dementia patients and managing neuropsychiatric symptoms during isolation. The exclusion criteria were: i) Not focused on COVID-19 lockdown/isolation management strategies. A total of 5 studies were chosen for management strategies. **Results:** Altogether, 6489 patients were included. Results from 9 studies with a total patient population of

6416 point towards a positive association with BPSD and lockdowns in response to COVID-19 through usage of the Neuropsychiatric Index (NPI). The 2 studies that did not find a significant association discussed outlying factors, such as no objective baseline measurement. Primary hypotheses discussed for increasing BPSD during lockdowns include a disruption in general routine, a decrease in physical activity, social isolation, and medical follow-ups. While there is no conclusive association, current evidence from 7 studies point to the most affected symptoms being agitation, anxiety, and apathy. Evidence from 3 studies with a patient population of 167 showcased that severe stages of dementia may be more prone to BPSD due to lockdowns. Of the 5 studies for management of BPSD during social isolation, increasing use of technology, routine physical activity, and personalized approach are strategies that were discussed. **Conclusion:** There is evidence pointing to a positive correlation between BPSD and the COVID-19 lockdown, with those with worse BPSD symptoms being affected more. However, the COVID-19 pandemic is a recent phenomenon, and thus there have been few studies with appropriate baseline measurements of BPSD. Thus, studies with stronger methodology that utilize baseline measurements such as the NPI of dementia patients prior to social isolation situations must be analysed in the future.

#### **No. 99**

##### **Revisiting Peyote: A Qualitative Analysis of the Subjective Experience of Peyote Use as Documented in Online Drug Forums**

*Poster Presenter: Keshav Holani*

*Co-Authors: Ashish S. Murthy, Douglas Opler, M.D., Parisa Thepmankorn*

#### **SUMMARY:**

**Background:** Peyote (*Lophophora williamsi*) is a cactus species containing 3,4,5-trimethoxyphenethylamine (mescaline), a hallucinogen whose psychedelic mechanism involves 5HT<sub>2A</sub> agonism. Recreational use of peyote is illegal in the United States; the only legal use of peyote is through the Native American Church in certain states, which has limited current research on the effects of the drug. In this study, we examined

recent (within the past 20 years) user self-reports of peyote consumption as reported on online drug forums to better understand the subjective effects of this drug. **Methods:** Search results on the public online forums, Reddit, Erowid, and DMT-Nexus were performed using keywords “trip report + peyote”, “peyote experience” and “experience peyote”. Posts were excluded because they were not trip reports, contained non-written media (including photos and videos), or described simultaneous use of other psychoactive substances with the exception of tobacco. Of the 498 posts, 41 written posts that qualified for analysis were analyzed for qualitative themes. **Results:** Peyote was most commonly consumed (61.0%) by eating buttons from the cactus or brewing tea (29.3%) from the buttons to drink, while the remainder did not specify. Users described a slow-onset long-lasting high, visual hallucinations (73.2%), free flowing thought processes guided by peyote, a feeling of connection to the world (29.3%), and increased empathy and interpersonal skills. Physical effects experienced by some users included nausea/vomiting (46.3%) and lethargy (17.1%). The majority (73.2%) of posters felt peyote allowed them to confront and resolve their problems, past actions, and negative behaviors. Of the 41 posts used for analysis, 28 reported positive headspace/emotional changes (68.3%) and 13 were equivocal (31.7%). It is significant that 11 cases (26.8%) reported initial negative emotions which later resolved into positive thoughts. The most therapeutic accounts were reported by individuals with premeditated questions and issues, who were led by a spiritual leader during their peyote experience. **Conclusions:** Users typically had positive experiences with peyote, often reporting resolution of emotional problems, increased self-acceptance, and improved mental health. The finding that users reported more positive results when led in their use by a spiritual leader raises the question of whether use in a treatment context with guidance by a psychiatrist and coordination with a therapist might be more helpful than unguided solo use. Study limitations included small sample size, self-report, minimal background information to help exclude potential confounders, and inability to objectively assess patient insight and psychiatric symptoms. That said, this study provides support for ongoing efforts to evaluate psychedelic agents as therapies for mental illness such as PTSD

and substance addiction and sheds light on peyote as an understudied agent with therapeutic potential.

#### No. 100

#### Neuropsychiatric Manifestations of COVID-19: A Case Report

*Poster Presenter: Sherina Langdon, M.D., M.B.A.*

*Co-Authors: Natalie Lowe, Tejas Patel, M.D.*

#### SUMMARY:

The SARS-CoV-2 or COVID-19 pandemic has affected many people around the world and has become known as one of the greatest global health threats of our generation. Despite our best efforts, there are still many unknowns about the SARS-CoV-2 virus. The major symptoms of COVID-19 include fever, fatigue, chills, headaches, body aches and loss of smell or taste. However, emerging reports of neuropsychiatric manifestations demonstrate the neuroinvasive potential of SARS-CoV-2 and the effects that it can cause on the central nervous system (CNS). These symptoms include febrile seizures, convulsions, stroke, delirium, insomnia and encephalitis. This case report details complexities in the presentation and management of insomnia, seizures and hyperactive delirium associated with the COVID-19 infection. We present a case of a 32 y/o Hispanic female, with no PPHx and PMHx of Diabetes Mellitus Type 1 & a positive COVID-19 infection, who initially presented to the ER, brought in by ambulance, due to an overdose of 20 metformin pills. Psychiatry was consulted to determine suicidality, but it was discovered that the patient was diagnosed with COVID-19 three weeks prior to this episode and had been enduring persistent insomnia since. She endorsed that she only took the metformin pills in order to sleep and had no intention of committing suicide; she cited her faith & children as reasons to live. **A full medical workup was initiated at this time. The following day, the patient was AAOX3 but confused with mild characteristics of delirium. It was recommended that the patient be started on Seroquel 25 mg PO & Melatonin 6 mg PO at bedtime to assist with sleep. The patient was brought back to the hospital by EMS activated by the patient's husband due to worsening confusion and agitation 10 hours after her discharge. The patient did not receive the**

**Seroquel prescribed. As per husband, the patient was acting erratic, hitting herself, and threatening to jump out of the window saying that “she already saw herself do it”. Psychiatry was consulted again due to her delirium and agitation. The following day, rapid response was called because the patient had two episodes of seizures along with altered mental status. Keppra and Ativan were given for the management of seizures. The patient was transferred to IMCU where she was later intubated to protect her airway.** This case is one example that highlights the different presentations and manifestations of SARS-CoV-2 in an individual. This patient was originally being evaluated as a case of suicidality independent of her previous SARS-CoV-2 diagnosis. However, it soon became apparent that SARS-CoV-2 was a catalyst to the development of the neuropsychiatric manifestations. This case goes to prove that practicing clinicians should maintain a low threshold of suspicion of neuropsychiatric manifestations when dealing with patients with a history SARS-CoV-2.

#### **No. 101**

##### **Structural Brain Effects of Sparring in Professional Mixed Martial Arts Fighters (Preliminary Findings)**

*Poster Presenter: Aaron I. Esagoff, B.S.*

*Co-Authors: Michael J.C. Bray, M.S., Bharat Narapareddy, M.D., Andres Pasuizaca, Charles Bernick*

#### **SUMMARY:**

**Background:** Repetitive head trauma, as seen in Mixed Martial Arts (MMA), can lead to structural and functional brain changes as well as long-term neurodegenerative disease. In MMA specifically, a greater number of professional fights and years of fighting have been linked to decreases in brain volumes. Professional MMA fighters fight only a few times a year but spend thousands of hours training (i.e., sparring, grappling). To better understand the impact of training on brain health, this project studied the long-term neuroimaging-related brain changes associated with sparring in MMA. **Methods:** This cross-sectional analysis was conducted through the Professional Fighters Brain Health Study, a longitudinal cohort study of MMA fighters. The data sample includes the first study visit for 92 active,

professional MMA fighters with available practice and MRI data. R version 4.0.5 was used to generate adjusted multivariate regression analyses to examine the effects of customary sparring practice rounds per week on white matter and a limited number of regional brain volumes. Models were adjusted for age, sex, education level, race, number of professional MMA fights, total intracranial volume, and type of MRI scanner. **Results:** The number of customary sparring practice rounds per week was significantly correlated with increased white matter hyperintensities ( $p=0.039$ ) on MRI. Additionally, increased customary sparring practice rounds was significantly correlated with increases in the relative size of the left caudate ( $p=0.012$ ) and right caudate ( $p=0.014$ ). **Conclusion:** Increased sparring was significantly associated with increased white matter hyperintensities, potentially indicating vascular damage from repeated blunt trauma. Interestingly, sparring was also associated with relatively larger bilateral caudate. These findings help shed light on the potential long-term impacts of sparring, helping to inform fighters, governing bodies, and the public about the potential risks and benefits of different styles of MMA fighting and practice. These preliminary findings will be followed up by analyses of the effects of grappling on structural brain changes, in addition to the effects of sparring and grappling on brain function and neuropsychiatric outcomes. Future research should further explore the longitudinal health effects of sparring and grappling in MMA.

#### **No. 102**

##### **Going Rural: Lessons Learned Starting an Outpatient Psychiatry Clinic at a Critical Access Hospital**

*Poster Presenter: Darshana Bhattacharyya, M.D.*

#### **SUMMARY:**

Most residency programs offer limited opportunities to learn about practicing psychiatry in rural communities. The objective of this poster presentation is to introduce the audience to critical aspects of the rural psychiatry job hunt, joining a community psychiatry outpatient practice (or starting one from scratch), and assessing and working to meet the mental health needs of largely

underserved rural communities. Using Cuyuna Regional Medical Center in Crosby, MN as a case study, this poster will be divided into the following sections: The Job Hunt (Investigative interviewing, negotiation, and securing rural loan forgiveness); The Practice (Identifying the needs of the community, establishing best workflow practices, advocating for behavioral health resources from the larger health system); The Healthcare Community (Recognizing the role a new psychiatrist may have in supporting the mental health needs of the healthcare community itself); and Collaborative Care (Overview of efforts to implement a model of collaborative care within an existing primary care practice). The author is an Early Career Psychiatrist in her first year out of a combined Family Medicine and Psychiatry residency program.

**No. 103**

**Is There a “Post-COVID-19- Associated Neurocognitive Syndrome?” a Study of Neuropsychological and Psychiatric Findings After Recovery From COVID-19**

*Poster Presenter: Sean T. Lynch, M.D.*

*Lead Author: Stephen Ferrando*

*Co-Author: Sivan Shahar*

**SUMMARY:**

*Background:* This study describes neuropsychological, medical, psychiatric and functional correlates of “Brain Fog” experienced after recovery from acute COVID-19 infection.

*Methods:* Sixty participants underwent neuropsychological, psychiatric, medical, functional and quality of life assessments 6-8 months after acute COVID-19. Participants seeking care for “Brain Fog” in a post-COVID-19 clinical program (Clinical Group, N=32) were compared to those not seeking care (Non-Clinical, N=28). A subset of participants underwent serological testing for C-Reactive Protein, Interleukin-6, and Tumor Necrosis Factor- $\alpha$ .

*Outcome:* Overall, 37 (62%) had neuropsychological test impairment (< 16<sup>th</sup> %ile in =2 tests), with 16 (27%) scoring with Severe Impairment (< 2<sup>nd</sup> %ile in at least 1 test and < 16<sup>th</sup> %ile in =1 tests). The Clinical Group scored lower than expected in tests of attention, processing speed, memory and executive function, and significantly more scored with Severe

Impairment than the Non-Clinical Group (38% vs. 14%,  $p<0.04$ ). They also reported higher levels of depression, fatigue, PTSD, functional difficulties and lower quality of life. Severe Impairment was predicted by acute COVID-19 symptoms, depression score, number of medical comorbidities and subjective cognitive complaints. IL-6 correlated with acute COVID symptoms, number of medical comorbidities, fatigue and measures of executive function. CRP correlated with current COVID symptoms, depression score and, inversely, with quality of life. *Conclusion:* Results suggest the existence of a “Post-COVID-19 Associated Neurocognitive Syndrome (P-CANS),” affecting multiple neurocognitive domains, associated with worse acute illness, depression, medical comorbidities, subjective cognitive and functional complaints. Exploratory correlations with pro-inflammatory cytokines support further research into inflammatory mechanisms and viable treatments. **Keywords:** COVID-19; Post-Acute Symptoms of COVID-19 (PASC); neuropsychological testing; cognitive deficits; neuropsychiatry

**No. 104**

**Patterns of Psychotropic Use in a Prospective Pediatric Cohort Aged 3-21: Demographic Trends and Associations with Research Diagnoses**

*Poster Presenter: Miranda Liang, B.S.*

*Co-Authors: Hetal Patel, M.D., Joan Luby, M.D.*

**SUMMARY:**

*Background:* Observing psychotropic prescribing trends may inform social and demographic factors that drive medication treatments in childhood mental disorders. While much is known about prescribing rates based on large-scale studies based on data from insurance claims, how this correlates with structured psychiatric diagnoses remains unclear. Our goal was to examine how psychotropic prescriptions associate with research diagnoses obtained by standardized research interviews in a pediatric cohort. *Methods:* The cohort (N=348) was enriched for children with mood and externalizing symptoms. Prospective longitudinal data was collected from ages 3 to 21 (2003-2019). Data on psychotropic prescriptions at up to 10 time points was collected by caregiver-report from the



MacArthur Health Behavior Questionnaire (HBQ-P) and as part of the research interview. Research diagnoses and disease severity scores were acquired using standardized structured research interviews (PAPA, CAPA, K-SADS based on age). Data was classified into developmental age groups: preschool (3.0-5.11), school-age (6.0-12.11), adolescent/early adult (13.0-21.11). Results: Our cohort was 52.9% white, 34.5% black, and 12.6% "other". The mean income-to-needs ratio was 2.03 (SD=1.15). Throughout the study, the prevalence of major depressive disorder (MDD) and attention-deficit hyperactivity disorder (ADHD) ranged from 24.1-35.1% and 12.8-24.8% respectively. The percentage of children with an ADHD research diagnosis prescribed ADHD medications by developmental period was preschool: 20.7%, school-age: 65.4%, and adolescence/early adulthood: 84%. The percentage with a MDD research diagnosis prescribed antidepressants was preschool: 0%, school-age: 21.6%, and adolescence/early adulthood: 42.6%. Among the 3 race categories, there was no difference in overall psychotropic prescriptions, nor in antidepressant, ADHD medication, or antipsychotic prescriptions separately. When looking only at children with a research diagnosis of MDD, black children were prescribed antidepressants significantly less than white children (black = 12.1%, white = 31.9%, FDR  $p = 0.0495$ ), despite similar MDD severity between both groups. There was no difference in income-to-needs ratio between children with antidepressant, ADHD medication, or antipsychotic prescriptions, and those without. Conclusions: Concordance between research diagnosis and psychotropic prescription class increased with age. Black children with MDD were prescribed antidepressants significantly less than white children, despite no difference in MDD severity. Income was not a significant barrier to being prescribed psychotropics in our cohort. More research is needed to understand the barriers causing this racial inequity in antidepressant prescriptions. This study utilized data from the Preschool Depression Study funded by NIMH, RO1 MH090786.

## Poster Session 2

### No. 1

#### "Say What?" Hashimoto's Encephalopathy and Anti-NMDA Receptor Encephalitis in a 16-Year-Old Presenting With Dysarthria

Poster Presenter: Fariya Faureen Ali, M.D.

Co-Authors: Megan White Zappitelli, M.D., Amanda Hartke, M.D., Ph.D., Onyedikachi Uzor

#### SUMMARY:

Altered mental status is a complex symptom that is frequently encountered in the pediatric hospital setting and often requires a team approach for diagnosis and treatment. We will present a case of a 16-year-old, previously healthy, young girl who was admitted to the children's hospital for dysarthria, intermittent unusual behaviors, and anxiety. She initially was diagnosed with hyperthyroidism at an outside urgent care; however, when she presented to our hospital, her initial thyroid labs were not conclusive for hyperthyroidism, and thus a broader work up for altered mental status was initiated. She had normal head imaging and non-conclusive EEG findings that were suggestive of possible encephalitis. Through further work up, she was found to have antibodies consistent with Hashimoto's thyroiditis and began treatment for this. She had a lumbar puncture that was significant for pleocytosis, and it was thought that she had Hashimoto's encephalopathy, which is very rare, particularly in pediatric patients. She was treated with several days of high dose steroids and olanzapine for unusual behaviors and insomnia with initial improvement in symptoms and was discharged home at her family's request to continue treatment in the outpatient setting. She was discharged home on a steroid taper and then returned to the hospital several days later with new-onset symptoms of catatonia and was found to be positive for anti-NMDA receptor encephalitis. She was then treated with IVIG and rituximab in addition to lorazepam for catatonia. She was successfully treated inpatient and was followed up as an outpatient in our psychiatric clinic, and she is now currently a successful college student in an honors college. Our poster will also include a summary of the recommendations for the work up of altered mental status, including the nuances and complexity of diagnosing Hashimoto's encephalopathy and Autoimmune encephalitis. We will also include

epidemiologic data with respect to each diagnosis. This case demonstrates the importance of casting a broad differential early in the hospital course to ensure the best treatment outcomes, particularly in cases that have limited information in the psychiatric literature. Finally, this patient's course was influenced by several cultural and socioeconomic factors. Specifically, this patient was a high-achieving young woman whose family did not initially support psychiatric involvement in her care and was skeptical of psychiatric treatments. Fortunately, our team was able to establish a good rapport with her family, and ultimately, they followed up with members of our team for two years until she moved to college. The importance of cultural competency will be woven into the content of our discussion throughout the poster as it pertains to the work up and the treatment of altered mental status.

## **No. 2**

### **“What’s Eating You?” A Case Series Illustrating Avoidant-Restrictive Food Intake Disorder (ARFID) in Adults and Its Relationship to GI Pathology**

*Poster Presenter: Rebecca Sturner, M.D.*

*Co-Authors: Michelle Sloan, Lama Muhammad, M.D.*

#### **SUMMARY:**

Introduction: Annually, eating disorders cost the US more than \$64 billion. (1) One study estimates that avoidant-restrictive food intake disorder (ARFID) represents approximately 9% of adult eating disorder cases. (2) However, there is a paucity of published literature discussing ARFID. Eating disordered behaviors are also overrepresented in patients with gastrointestinal disorders. We present a case series and literature review illustrating the relationship between GI disorders and ARFID as well as its treatment in the adult population. Methods: The authors describe two cases of adult patients with ARFID and comorbid GI disorders. The authors then review the symptomatology, diagnosis, complex relationship with GI disorders and treatment of ARFID in the adult population. Results: Case 1: A 50 y/o F with Crohn's Disease presented with a chief complaint of chronic insomnia and severe malnutrition. The patient revealed food avoidance due to fear of vomiting after eating and would restrict her food intake to particular food

groups as a result. The diagnosis of ARFID was made and the patient was treated with olanzapine. Case 2: A 32 y/o F with Irritable Bowel Syndrome and Celiac disease presented with anxiety, depressive disorder, and significant weight loss. The patient reported food avoidance related to abdominal discomfort that was not fully accounted for by her GI disorder. She was found to fulfill the criteria for ARFID and was treated with mirtazapine. Discussion: Eating disorders are common in patients with GI disorders and clinicians should carefully distinguish when ARFID is present. Those with GI disorders often experience food-related trauma and we posit that the cognitive behavioral model of ARFID development offers an explanation of the comorbidity of these disorders. While there is no gold standard medication for the treatment of ARFID, studies in children and adolescents have found that treating with mirtazapine or olanzapine has led to more rapid weight gain. Treatment options include Family-Based Therapy and Cognitive Behavioral Therapy and hospital-based refeeding programs. (4) Conclusion: Consultation psychiatrists should be aware of ARFID and its comorbidity with gastrointestinal disorders as well as options for its treatment. Learning Objectives Understand the definition of ARFID in adults. Discuss treatment options for management of ARFID in adults. Explore the nature of the relationship between gastrointestinal pathology and ARFID.

## **No. 3**

### **A Case of Lurasidone Induced Urinary Retention**

*Poster Presenter: Rojan Varghese, M.D.*

*Co-Authors: Alexis Cohen-Oram, M.D., Shixie Jiang, M.D.*

#### **SUMMARY:**

**Background:** Urinary retention is defined as the inability to completely empty the bladder and has several etiologies, among them medication induced. Several medication classes have been implicated in cases of urinary retention including antipsychotics. Lurasidone is a newer second-generation antipsychotic and to date there has only been one case report associating its use with urinary retention; however notably there were two other potential causative agents involved. This report

describes the case of a woman who developed urinary retention during the course of lurasidone monotherapy. **Case Presentation:** We present the case of a 58-year-old female (Ms. P) with a history of Bipolar I Disorder who presented for management of depressive symptoms. Notably, she had no prior history of urinary retention or other urinary pathology. After several previous failed psychotropic trials, she was started on lurasidone monotherapy. Her dose was increased after initial response but not resolution of her depression. She began to report difficulty with urination that resolved when dose was reduced back to starting level. However, she remained depressed and was amenable to retreat at the higher dose. Within three days she reported difficulty with urination that again resolved with return to her starting dose. **Conclusion:** This report details a case highly suggestive of lurasidone induced acute urinary retention. Lurasidone is particularly notable for its strong antagonism of the 5-HT<sub>7</sub> serotonin receptor. There is growing evidence that this receptor is involved in the promotion of micturition and voiding efficiency. Recognition of lurasidone induced urinary retention will be important for clinicians as the newer drug has become increasingly utilized in the treatment of psychosis and mood and will potentially become even more so as it soon becomes generic.

#### No. 4

##### **A Case of Successful Pharmacotherapy of Sensory Hypersensitivity: A Risk Factor for PTSD?**

*Poster Presenter: Sudeep Peddireddy, B.A.*

*Co-Authors: Allison Dinar, B.S., Douglas Opler, M.D.*

##### **SUMMARY:**

**Background:** Sensory intolerance refers to distress in response to benign everyday stimuli. It is often comorbid with autism, OCD, fragile X syndrome, avoidant/restrictive food intake disorder, GAD, and PTSD. While studies exist demonstrating the short-term behavioral outcomes of sensory intolerance in children, no studies investigate long-term outcomes of sensory intolerance. Guidance on pharmacotherapy is non-existent. We present the first reported case of sensory intolerance successfully treated with medications. Sensory intolerance in this case notably preceded the

development of PTSD. **Case Presentation:** An 18-year-old woman with a history of acne on isotretinoin and GAD presented to the outpatient clinic complaining of an increasing frequency of angry outbursts towards her mother. Since childhood, she suffered tactile intolerance to innocuous stimuli such as tags and embroidery on clothing. In adolescence, she suffered emotional and physical trauma by a gymnastics instructor. Since the trauma, she developed intolerance to visual, auditory, and olfactory cues which triggered reexperiencing and avoidance. Cues included the transient misperception of shadows at night as her former instructor, hypervigilance to sounds reminiscent of gymnastics, and the smell of vodka reminding her of her instructor's breath. No new or worsening symptoms correlated with the initiation of isotretinoin. She was diagnosed with PTSD. Laboratory tests, including comprehensive metabolic panel, folate, and complete blood count were normal. Vitamin D, 25-OH was low at 5.7 ng/mL. Vitamin B12 was 385 pg/mL. Given low and low normal results respectively, vitamin D and B12 were repleted. Treatment was initiated with fluoxetine titrated up to 40 mg PO daily and NAC titrated up to 1200 mg PO daily. Reduction in PTSD symptoms, irritability, and tactile hypersensitivity followed. **Discussion** This is the first reported case of successful pharmacotherapy of sensory intolerance. Informed by a similarity between the intrusive nature of OCD and sensory intolerance, fluoxetine and NAC were prescribed with the former also targeting PTSD. Given concurrent prescription, it is not possible to separate out whether either agent might have been successful in monotherapy. Furthermore, vitamin D and B12 both have roles in sensory function, so repletion of either of these may also have contributed to resolution of symptoms. Further research on pharmacological interventions for the condition and on serum vitamin levels in sensory intolerance is needed to clarify effective treatment regimens. Given the prominence of sensory cues in triggering symptoms in patients with PTSD, we question whether sensory intolerance may be an unrecognized risk factor for PTSD in patients exposed to trauma. In future research, sensory intolerance should be examined as a potential determinant of progression to PTSD following a trauma.

## No. 5

### A Case on Cannabis Induced Catatonia

Poster Presenter: *Roshnai Bhowal*

#### SUMMARY:

**Introduction** Catatonia is characterized in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) as marked psychomotor disturbance that may involve decreased motor activity and/or engagement, or excessive and peculiar motor activity. Furthermore, the DSM-V underlines the context in which catatonia can occur, including neuro-developmental, psychotic, bipolar, depressive disorders, and other medical conditions such as folate deficiency and rare autoimmune and paraneoplastic disorders. However, substance-induced catatonia, or specifically 'cannabis-induced', is not defined or present in the DSM-V and should be given emphasis when considering a differential diagnosis of catatonia. **Case** We discuss a case describing a 19-year-old female with no past medical or psychiatric history who was admitted and treated with IV lorazepam for catatonia. Collateral determined heavy cannabis use within the last 14 months and purchases done exclusively through Snapchat. This case report will further discuss the challenges in identifying cannabis-induced catatonia and the importance of such regarding preventative measures, inpatient management and outpatient prognosis and treatment planning. **Discussion and Conclusion** Cannabis, also called marijuana, is mostly comprised of a single cannabinoid: delta-9-tetrahydrocannabinol (THC), which is what gives cannabis its psychoactive properties and has an estimated 192 million users worldwide. We hypothesize that increasing legalization of cannabis and worldwide popularity of the substance is likely to cause an increase in the number and prevalence of catatonia in patients without any underlying conditions. Although no exact patho-physiological mechanisms connecting cannabis and catatonia have been identified, studies suspect it occurs due to decreased activity of the gamma-aminobutyric acid type A (GABA-A), dopamine at the dopamine type-2 (D2), and glutamate at N-methyl-D-aspartate (NMDA) receptors. Moreover, evidence suggests

that cannabis use may trigger psychosis and with potent and frequent THC consumption can increase the risk of schizophrenia 6-fold. In conclusion, given the rapidly growing number of cannabis users the understanding of how cannabis may induce catatonia, or being able to identify and assign it as such, is a necessity in order to assess for modifiable risk factors, treatment approaches and prognosis. There are 13 studies available for "substance induced catatonia", and less than 5 specifically for cannabis which has the greatest recreational popularity globally. Recommendations are needed in regards to safe levels of cannabis consumption in order to tailor treatment approaches and prevent the chances of cannabis-induced catatonia. All of these modifications, are therefore, crucial in the implementation, specifically of, cannabis-induced catatonia, or substance-induced catatonia, into the DSM-V.

## No. 6

### A Case Report Highlighting the Relevance of Lack of Social Support on Treatment Outcome in Immigrants With Mental Illness in the United States.

Poster Presenter: *Catherine Zeba Sunny*

Co-Author: *Raj V. Addepalli, M.D.*

#### SUMMARY:

Immigrants make up 13% of the population of the United States. Studies show that immigrants with mental illness have poorer treatment outcomes compared to non-immigrants<sup>3</sup>. Several barriers affect treatment outcomes in immigrants<sup>1,2</sup>, of which lack of social support is a significant one. This case illustrates the influence of lack of social support on treatment outcomes for a first-generation immigrant with mental illness in the United States. Mr. V is a 27-year-old unemployed man residing in a shelter, with a history of schizophrenia and multiple psychiatric hospitalizations. After shelter personnel noticed him acting strangely, EMS took him to the emergency room. He expressed passive suicidal ideation while in the ER, stating "I feel like I want to get hit by a train or a bus as my mind is playing tricks on me". On evaluation, he was found to be actively psychotic due to medication noncompliance. For further stabilization, he was admitted to the

inpatient facility. Additional information was obtained from the patient and his family in India, revealing that he had traveled to the United States at the age of 22, to pursue higher education. During that time, he experienced prodromal symptoms, such as locking himself in his room for days and refusing to eat or bathe. He went to India at the request of his concerned family and returned after his symptoms had improved. He went on to earn his Master's degree and work as a software engineer. He was first hospitalized when his coworkers observed him going to work disheveled. He eventually lost his job and ended up homeless. He had some distant friends in the United States who sheltered him initially, but he overstayed his welcome by making multiple unreasonable demands, leading to police removing him. Medication non-compliance due to poor insight led to the deterioration of his symptoms and multiple hospitalizations. His family in India was in the dark about his whereabouts, multiple admissions, and psychiatric diagnosis, as they had no means to communicate with him. He had no existing social support system in the United States, and his family was attempting to find out how to get him back to India safely, even though they were in tremendous financial debt from funding his education. While in the inpatient unit, he was started on olanzapine, which was titrated to 20 mg /day, and was assisted to speak with his family in India, who was able to motivate him to adhere to treatment. His symptoms gradually improved, and he was eventually discharged with outpatient follow-up. Following discharge, his caseworker helped him obtain a phone to contact his family in India. This case highlights how successfully reconnecting immigrants with their social support system can help improve treatment adherence and outcomes.

## **No. 7**

### **A Diagnostic Challenge: Neuro-Behcet's and Reversible Cerebral Vasoconstriction Syndrome**

*Poster Presenter: Syshane S. Lu, M.D.*

#### **SUMMARY:**

A 53 year old female with a history of major depressive disorder, migraines, Behcet's syndrome who was brought in by her husband with a 10 days

history of headaches. These were intermittent headaches which were more severe than her typical migraines and accompanied by nausea and vomiting. Behavioral changes were noted upon arrival in the emergency room. She was restless, agitated, had childlike speech, and ruminated on being thirsty. Neurology was consulted from the emergency room to rule out stroke, and expressive aphasia was noted. CT head, MRI, MRA, and CTA were performed. CTA noted multifocal narrowing of bilateral vertebral arteries. LP was unremarkable. Psychiatry was consulted for concern of conversion disorder as the ongoing neurology workup was negative. Patient was initially diagnosed with conversion disorder due to observations that patient's agitation, yelling, childlike behaviors increased when others were in the room with her, onset of the behaviors started when patient arrived at hospital, and the pending neurology workup could not find explanation for symptoms. On day3, the possibility of neuro-Behcet's was considered given confusion, CTA findings, nausea, vomiting, and headache. However, her CSF labs were not consistent with neuro-Behcet's. That night, patient had sudden onset cortical blindness. Cerebral angiogram was performed under general anesthesia. Angiogram found diffuse intracranial vasospasm and she was diagnosed with reversible cerebrovascular vasoconstrictive syndrome. CT head following angiogram showed hypoattenuation in right frontal, parietal, and occipital lobes. Patient required higher level of care and was transferred to a different medical center 4 days later. This patient's clinical course was complicated by difficulties in initial diagnosis. In this poster we discuss RCVS, Neuro-Behcet's disease and psychiatric manifestations. We discuss the patient's atypical presentation with consequent diagnostic dilemma requiring close interdisciplinary liaison. Clinical symptoms of reversible cerebral vasoconstriction syndrome (RCVS) include recurrent, sudden onset headaches occurring over 1-3 weeks, nausea, vomiting, vision changes, confusion<sup>1</sup>. A diagnosis of RCVS requires evidence of cerebral vasoconstriction in at least 2 arteries<sup>2</sup>. Catheter angiography is considered to be gold standard of diagnosis<sup>2</sup>. Differentiating between RCVS and CNS vasculitis can be difficult. Behcet's disease is an vasculitic disease which can have

neurological involvement (neuro-Behcet's disease). Presenting symptoms of neuro-Behcet's include headache, hemiparesis, ataxia, dysarthria, behavioral and cognitive changes<sub>3</sub>. In neuro-behcet's, CSF fluid is noted to have pleocytosis, increased protein, normal glucose. In acute neuro-behcet's, mesodiencephalic lesions are commonly found on MRI.

#### **No. 8**

##### **A Study to Investigate the Impact of Community Service on the Mental Health of Medical Students**

*Poster Presenter: Sheina Duncan*

*Co-Authors: Matthan Moy, Denny Fe Agana, Ph.D., M.P.H.*

#### **SUMMARY:**

Studies indicate that medical education negatively impacts student mental health, in which medical students report higher levels of psychological distress and suicidal ideation than their age-matched peers (1). Exercise, sleep, healthy eating, and social activities are among the most researched coping mechanisms for stress, anxiety, and/or depression (2). However, it is not uncommon for medical students to indicate perceived mental and emotional wellbeing benefits after a community service experience. This study aims to analyze the impact that serving others has on the perceived mental health of medical students. The 10-item Perceived Stress Scale is being used to measure the stress levels of 82 medical students (3). Additional questions on the survey also gauge the students' weekly volunteer experiences in both clinical and non-clinical settings and their perceived effects on stress. Previous research on volunteerism and its impact on health have demonstrated support for the use of community service as a possible intervention for favorable outcomes on depression, life satisfaction, and wellbeing (4)(5)(6). No studies of this nature have been conducted on a medical student population. As medical students face higher levels of stress in comparison to the general population, it is exceedingly important to determine methods to decrease their risk of compromising their mental health (7). At the conclusion of the data collection and analysis (09/2021-12/2021), correlations between medical students' perception

of their mental health and their community service experiences are anticipated. This study may aid in decision-making and research in favor of or against including community service components as a part of core medical education curriculum.

#### **No. 9**

##### **A Systematic Review of 1H-MRS Studies Investigating Brain Glutamate Level on High-Risk Adolescents for Psychosis**

*Poster Presenter: Bryan Yoon, M.D., Ph.D.*

*Co-Authors: Bonnie Yam, M.D., Rajesh Kumar Mehta, M.D., Ishdeep Narang*

#### **SUMMARY:**

**Objectives:** The glutamate hypothesis of schizophrenia highlights disturbances in the N-methyl-D-aspartate receptor (NMDAR) glutamate-gated cation channel, and there have been increasing interests in this receptor for the new target for drugs. A large body of studies reported increased glutamate concentrations in patients with schizophrenia specifically in the frontal region, however, there have been limited reports in the high-risk adolescents for psychosis (HR). **Methods:** A systematic review was performed according to the guidelines of the PRISMA group utilizing Medline, Embase, and PubMed search engine. Search terms used were (Clinical high risk or Ultra high risk) and (Magnetic resonance spectroscopy or Spectroscopy or MRS) and Glutamate. Studies published by 2020 were included in the systematic review study. **Results:** Twenty-three studies were identified and 19 studies were included in the present systemic review study. One study had an overlap patient population with previously reported study and 3 studies did not report absolute glutamate and/or glutamine level (glx). Frontal, temporal, hippocampus, striatum, thalamus, and cerebellum were commonly studied brain regions. Nine studies investigating glx of the frontal region reported no significant group difference between HR and healthy controls (HC). Three studies explored glx of temporal region and 1 study reported significant group difference where HR group had decreased glx level. Eight studies investigated hippocampal glx level and 1 study reported decreased glx level and 2 studies reported increased glx level in the HR. Notably, 1 study

reported an association between increased glx level and poor functional outcome. Five studies explored thalamus glx level and 2 studies reported decreased thalamus glx level in HR. One study explored glx level of the occipital region which reported an increased level of glx in HR. Only 1 study investigated glx level in the cerebellum and reported no significant glx level between HR and HC. Conclusions: Studies exploring glutamate levels in the thalamus reported decreased glutamate levels in HR whereas, schizophrenia studies reported inconsistent findings. This finding possibly reflects a compensatory mechanism of HR.

#### **No. 10**

##### **Review of the Literature on the Incorporation of Meaningfulness in the Assessment of Depression**

*Poster Presenter: Luke White, D.O., M.P.H.*

*Co-Authors: Scott Michael Hoener, M.D., Brittany Tolstoy, Psy.D.*

##### **SUMMARY:**

Psychedelic agents, particularly psilocybin, have seen renewed interest in exploring their therapeutic potential to treat psychiatric ailments such as depression, anxiety, and substance use disorders. Recent literature has described the role of individuals' subjective experiences, namely, that the specific quality of these experiences may be predictive of both acute and long term therapeutic outcomes<sup>1</sup>. Numerous reported subjective experiential factors--including but not limited to: changes in openness, expanded connectedness, and loss of sense of self<sup>2</sup>--have been hypothesized to mediate sustained therapeutic effects<sup>1</sup>. Some studies have demonstrated that a single session of psychedelic assisted therapy can induce an experience characterized as one of the most "meaningful" of an individual's life<sup>3</sup>. Thus, individuals' reported degree of meaning enhancement has been proposed as a possible mediating factor for psilocybin's therapeutic effects both during and after treatment. While "meaning-enhancement" as a possible predictive factor of reduced depressive symptoms is noted in recent literature on psilocybin, it is unclear to what extent effects on "meaningfulness" have been measured for traditional antidepressant treatments, or even

newer modalities such as ketamine. Few studies have assessed meaning-enhancement independently, and there are few validated psychometric tools to measure degrees of meaningfulness with regards to medication therapies<sup>4</sup>. We propose a systematic review of the literature to analyze existing psychometric assessments of depression and the extent to which meaningfulness is incorporated in these tools. We will conduct a database search in order to identify relevant literature on the assessment of depression. We will then analyze the body of relevant literature for the frequency with which meaningfulness and its related concepts appear. If meaningfulness has been minimally assessed with regards to depression and its treatments, then its incorporation of new standardized psychometric tools for psychedelics, ketamine, and antidepressants may offer new paths for further investigation of treatment efficacy. This may merit a shift in our conceptualization of depression as a process. We also propose future avenues to develop qualitative psychometric assessment tools to better study the degree to which psilocybin, ketamine, and existing antidepressant therapies may impact individual perceptions of meaning.

#### **No. 11**

##### **Acoustic Neuroma Mimicking Symptoms of SSRI/SNRI Discontinuation**

*Poster Presenter: Anatoliy Kuznetsov, M.D.*

*Co-Author: Lauren Kaczka-Weiss*

##### **SUMMARY:**

A 31yo Caucasian female, with a reported past psychiatric history of unspecified depression and anxiety, initially presented to the outpatient clinic with concerns for perceptual disturbances, intrusive thoughts, and sleep disturbance since the birth of her child three months prior. She was diagnosed with postpartum depression with mood congruent psychosis as well as postpartum anxiety and treated with trials of two selective serotonin reuptake inhibitors (SSRIs) which were both discontinued due to intolerability of side effects including intermittent headaches and diaphoresis. For some time the patient decided to hold off on any pharmacologic intervention due to concern for adverse effects.

However, after about six weeks her symptoms of anxiety became significant enough that she requested to start medication again. The patient was prescribed a serotonin and norepinephrine reuptake inhibitor (SNRI), venlafaxine, but noted recurrence of headaches which were initially tolerable. After the patient was titrated to a dose of 112.5mg of venlafaxine she began complaining of nausea, diaphoresis, and diarrhea. She was instructed to decrease the dose of medication to 75mg but continued to experience somatic symptoms which caused her to abruptly discontinue the medication altogether. She developed worsening of previous symptoms as well as new onset vertigo which did not resolve after the patient restarted venlafaxine. Rather, she progressively felt worse until she felt unable to walk which prompted her primary care physician to order a brain MRI. The patient was found to have a left sided acoustic neuroma measuring approximately one inch and the patient was referred to the hospital for further evaluation. Neurosurgery was consulted and the patient underwent outpatient surgery about one month later with resolution of neurological symptoms and perceptual disturbances. Adverse effects are a common occurrence when prescribing antidepressant medication such as SSRIs and SNRIs. Signs and symptoms of the effects related to the use and discontinuation of these medications are broad and non-specific. It can be difficult to differentiate between these symptoms and those related to underlying pathology. In this poster we will discuss the importance of recognizing and distinguishing these signs and symptoms. We will also examine how to identify when to refer patients to neurologists or their primary care providers when appropriate but also to not over burden the healthcare system with unnecessary referrals.

## **No. 12**

### **Acute Mania Following COVID-19 in a Woman With No Past Psychiatric History**

*Poster Presenter: Steven T. Sprenger, M.D.*

*Lead Author: Luigi Cardella, M.D.*

*Co-Authors: Pilar Bare, D.O., Rahul Kashyap, M.D., M.B.A.*

## **SUMMARY:**

A 47-year-old woman with no psychiatric history and a past medical history of hypertension and premenstrual syndrome presented to the psychiatric hospital with new onset mania. She had developed symptoms of COVID-19 three weeks earlier and was diagnosed with COVID pneumonia. She received supportive care as an outpatient and was not provided corticosteroids. During her quarantine, she experienced high levels of stress, grief, and anxiety. Seventeen days after the onset of symptoms she developed altered mental status, sleeplessness, elevated mood, talkativeness, and preoccupations. Her partner was concerned for both of their safety based on her bizarre behavior and called emergency medical services. Upon arrival to the hospital, she had not slept for five days and exhibited flight of ideas, talkativeness, and grandiose ideas. She reported a positive family history of bipolar disorder, but had never personally experienced a manic or depressive episode. Screening for drugs of abuse was negative and her partner emphatically denied any previous mood symptoms. She was stabilized using antipsychotics, a mood stabilizer, and a short course of a benzodiazepine. Many of her symptoms improved, including her elevated mood, increased activity level, and flight of ideas though she continued to have decreased need for sleep as her benzodiazepine was tapered. She and her partner were agreeable to transitioning to outpatient care after her mood stabilized. This report emphasizes the link between COVID-19 and the development of new onset neuropsychiatric disorders. Acute mania has no recognized association with COVID-19, but several similar cases have been observed. The patient's age and time to onset of psychiatric symptoms is consistent with these reports. Given the growing body of evidence, this association warrants further investigation. Patients undergoing quarantine experience social isolation, anxiety related to the disease, and severe disruptions to their lives. Coronavirus also causes significant systemic inflammation and has been shown to be neurotropic. Psychiatric practitioners should be aware of these effects and advocate for psychiatric evaluation following infection with COVID-19. Developing successful treatments for neuropsychiatric sequelae of COVID is critical. Strategies for responding to the psychiatric effects of



this disease will be crucial towards preparations for future pandemics.

**No. 13**

**Adverse Consequences of Continuing Antipsychotics for Childhood Behavioral Dysregulation Into Adulthood**

*Poster Presenter: Elizabeth M. Fam, M.D.*

*Co-Authors: Sonal Harneja, M.D., Gemma Espejo, M.D.*

**SUMMARY:**

**Introduction:** Atypical antipsychotics are commonly used off-label for behavioral dysregulation in patients with intellectual disability or developmental delay, though only aripiprazole and risperidone are FDA approved for autism spectrum disorder. Medication regimens started in childhood are often continued into adulthood, potentially extending unnecessary exposure of side effects to these patients while providing minimal benefit. **Case Description:** This is a 25-year-old female with history of intellectual disability and developmental delay from cerebral vascular accident as a newborn with residual right hemiparesis, history of epilepsy, and intermittent explosive disorder who presented to an inpatient unit with suicide ideation. She has a history of dysregulated behavior from childhood, for which she was prescribed risperidone 2 mg nightly for multiple years. During admission, patient reported amenorrhea and subsequent workup revealed elevated prolactin. Gynecology service diagnosed her with secondary amenorrhea and polycystic ovarian syndrome (PCOS), likely worsened by hyperprolactinemia due to risperidone. Considering presenting symptom of suicide ideation and lack of other affective, psychotic, or behavioral symptoms, risperidone was subsequently discontinued. Patient remained in hospital for over four months (due to placement issues) and was monitored for behavioral changes and mental status exam changes. Off risperidone, patient remained in behavioral control. There were no worsening symptoms. precipitation of psychotic symptoms, mood symptoms, no episodes of agitation, irritability, or behavioral dysregulation. Patient was also put on hormonal therapy to treat PCOS and eventually had a regular menstrual cycle. **Discussion:** We share this case to demonstrate

adverse consequences of continuing atypical antipsychotics from childhood into adulthood in patients with intellectual disability. For this patient, the risks outweighed the benefit, as evidenced by no change of symptoms or worsening behavior after risperidone was discontinued. While there may be reluctance from some clinicians to discontinue long standing antipsychotics that were started in childhood for behavioral dysregulation, it is important to re-evaluate symptoms and reconsider medication regimens as these patients become adults. Additionally, this case highlights the importance of screening for side effects, specifically obtaining a menstrual history as this patient had been hospitalized several times before amenorrhea was discovered and before hyperprolactinemia and gynecological workup were pursued. More research needs to be done to guide treatment of patients with a history of behavioral dysregulation and intellectual disability as they transition from childhood into adulthood.

**No. 14**

**An Atypical Case of Withdrawal Emergent Dyskinesia Complicated by Barriers to Accessing Care**

*Poster Presenter: Calvin Sung, M.D.*

*Co-Authors: Christina Connolly, Dmitriy Gekhman*

**SUMMARY:**

Ms. S is a 53 year old Caucasian female with a past psychiatric history of bipolar I disorder who presented to the emergency department with involuntary perioral movements and psychosis after abrupt discontinuation of haloperidol. The patient had multiple medical problems including a history of pilocytic astrocytoma, anaplastic meningioma, asthma, chronic obstructive pulmonary disease, obstructive sleep apnea, and heart failure. Two weeks prior to presentation, the patient was hospitalized in the intensive care unit for symptomatic hyponatremia presenting with seizure. At that time, her home medications of haloperidol, citalopram, and gabapentin were discontinued due to concern for medication-induced Syndrome of Inappropriate Antidiuretic Hormone. Sodium was corrected with intravenous fluids and the patient was discharged home with instructions to continue

holding her medications and follow up with her outpatient psychiatrist. Twelve days following the discontinuation of haloperidol, the patient returned to the emergency department reporting a burning sensation associated with the feeling of bugs crawling around her lips, vague audiovisual hallucinations of abstract figures, and continuous involuntary lip smacking. She scored a 12 on the Abnormal Involuntary Movement Scale (AIMS) with most points given to orofacial movements and global judgements. She was suspected to be experiencing withdrawal emergent dyskinesia from discontinuation of haloperidol and was admitted to the inpatient psychiatric unit for stabilization of symptoms. The involuntary movements and perioral sensations resolved with olanzapine titrated up to 20mg at bedtime with a repeat AIMS score of 0. However, her psychotic symptoms persisted and she was ultimately switched back to haloperidol, now requiring a total of 20mg per day, four times her prior dosage. Unlike tardive dyskinesia which presents insidiously with prolonged antipsychotic exposure, withdrawal emergent dyskinesia develops suddenly after reducing, changing, or stopping an antipsychotic.<sup>1</sup> In this poster, we discuss an atypical presentation of this condition, including the presence of neurosensory changes, and the importance of differentiating this reversible condition from other movement disorders.<sup>2</sup> This case was complicated by barriers to care in which the patient had challenges accessing both in-person and telehealth services during the COVID-19 pandemic due to limited mobility and poor technological literacy, leading to a delay in diagnosis. In addition, the stigma of psychiatric illness among treating providers may have played a role in the abrupt discontinuation of an essential antipsychotic without careful consideration of the risks of serious adverse outcomes.<sup>3</sup> Clinicians should be aware of the risks of developing withdrawal emergent dyskinesia when treating patients with antipsychotics, while also considering the barriers to care that may limit close monitoring and necessary follow up care.

## **No. 15**

### **Assessing Spirituality and Religion in Psychiatry—A Method to Improve Patient Evaluations and Medication Compliance?**

*Poster Presenter: Ariella Maghen, M.D.*

*Co-Author: Rimal Bera*

#### **SUMMARY:**

Spiritual and religious practices play a role in promoting mental health as a positive coping method and providing community and support to patients. Research has shown that psychiatrists appreciate the importance of spirituality and/or religion and are more likely to be comfortable addressing spiritual and religious concerns, compared to other physicians. However, there is still little known about how spirituality and religion may impact medication compliance particularly among psychiatric patients, and which group of patients might be more likely to engage in spiritual and religious activities, such as prayer or church attendance. As part of a routine evaluation to assess standard of care in the psychiatric clinic, we administered surveys to 63 patients who were diagnosed with at least one of the following conditions: schizophrenia spectrum disorders, bipolar disorder, anxiety, or depression between January and March 2020. The purpose of this study was to assess their spiritual and religious involvement and level of medication compliance as part of a routine evaluation for standard of care in the clinic. We adapted and slightly modified the Duke University Religion Index to fit the objective of our study and assess spirituality, religiosity, and spiritual/religious activity of participants. Our revised questionnaire consisted of three items: "I am a spiritual person", "I am a religious person" and "I attend church or religious meetings regularly". Participants were asked to respond to each statement on a 5-point Likert scale ranging from 0 (strongly disagree) to 5 (strongly agree). We measured patient medication compliance using the Medication Adherence Rating Scale (MARS), a 10 yes/no item scale, with the sum of items ranging from 0 to 10, with a higher score indicating better medication adherence. Our results indicate that the schizophrenia patient group scored highest on spirituality, religiosity, spiritual/religious activity, and MARS. These findings can help advise psychiatric

teams to include the assessment of spirituality/religion in patient evaluations, as it may be an important source of support that patients utilize, which may in turn improve their adherence to treatment and enhance quality-of-life outcomes. Our findings are consistent with previous research that found schizophrenic patients who adhered to their medication treatment were more likely to be associated with a religious affiliation, considered religion to be an important aspect of their lives, and were involved with religious practices in group at least once a month, compared to the non-adherent patients. Future research should aim to identify additional factors that may play a role in moderating medication adherence among psychiatric patients, such as social support, follow-up of medical appointments, adverse medication side effects, and personal acceptance of psychiatric diagnosis.

#### **No. 16**

##### **Atypical Neuroleptic Malignant Syndrome With Rash After Loading Dose of Paliperidone Palmitate: A Case Report**

*Poster Presenter: Kevin Hart McDonough, M.D.  
Co-Authors: Jasmine Kim, Prashanth Ramshankar, M.D., Martha Solomon*

##### **SUMMARY:**

Neuroleptic malignant syndrome (NMS) is a rare, severe and potentially life-threatening side effect of antipsychotic medications. It is thought to be more commonly associated with first generation antipsychotic agents (FGA) and presents with abrupt onset of fever, altered mental status, autonomic dysfunction, muscle rigidity and elevated serum CK, impaired liver function tests, leukocytosis and electrolyte abnormalities (1). However, this classic constellation of findings may not be found when NMS develops in the context of treatment with SGAs (2). There is very low incidence of NMS with SGA LAIs especially paliperidone (3) and no difference in clinical outcomes between oral and LAI medication (4). Concomitant use of mood stabilizers especially lithium has also been reported to induce NMS (5). Knowledge on the clinical heterogeneity of NMS is very important given the potential for morbidity, mortality and long-term sequelae when NMS is unidentified and untreated. Here we present an

example of atypical NMS with generalized whole-body rash occurring in the context of first loading dose paliperidone palmitate and established tolerability to oral Risperidone in combination with lithium, and valproic acid. Our patient is a 21-year-old black male with a bipolar I disorder who was admitted for a severe manic episode with psychotic features. He remitted on a combination of Depakote, Risperidone and Lithium and received an initial loading dose of paliperidone palmitate 234 mg and three days later began spiking fevers with tachycardia and eruption of a maculopapular, morbilliform rash with erythematous plaques and papules covering >90% of his body surface area. A differential diagnosis of NMS vs DRESS syndrome was considered due to lack of muscle rigidity and patient was treated with high dose steroids and NMS was managed with antipyretics, fluids and discontinuation of all psychotropic medications. He had a gradual resolution of all the NMS symptoms by 3 weeks but had a relapse of mood symptoms with psychosis. A re-challenge with lithium led to an increase in AST/ALT and normalization of labs with discontinuation. He improved on a combination of Depakote and Quetiapine without complications. To our knowledge, this is the first documented case of atypical NMS occurring in association with a morbilliform skin eruption and provides insight on the challenges of recognizing and treating a patient with atypical NMS occurring with the use of second-generation LAIs along with lithium and Depakote.

#### **No. 17**

##### **Biological Considerations in Treatment Refractory Psychotic Symptoms in Patient With History of Gastric Bypass Surgery and Schizoaffective Disorder**

*Poster Presenter: Thomas Finstein, D.O.*

*Lead Author: Evan Allen, D.O.*

*Co-Author: Jeremy Richards, M.D.*

##### **SUMMARY:**

Schizophrenia/Schizoaffective disorders are both chronic, disabling conditions with a prevalence of 1% and 0.3% respectively that effects not only quality of life but is associated with higher mortality rates. Patients with schizophrenia have a 2-3 fold increase in mortality risk when compared to the general population and is the 8<sup>th</sup> leading cause of disability

worldwide for people aged 15-44. Schizophrenia has an enormous burden on the medical system costing on average \$15,000-20,000 per patient, with treatment resistant cases up to 11 fold higher per year. The primary intervention for schizophrenia and psychotic spectrum disorders is pharmacotherapy with antipsychotics. Outcomes and response rates vary and not all patients respond. Medication adherent rates are only 42% and 41% for schizophrenia and bipolar disorder respectively. Response rates to first episodes of schizophrenia have been shown to be as high as 80%, however approximately 50% of those with chronic schizophrenia do not respond to pharmacotherapy. Data shows varying factors that may contribute to remission rates and clinical outcomes which include age of onset, premorbid functioning and gender to name a few. We present a complex case in what appears to be treatment refractory psychotic symptoms in a 41 y/o female spouse of an active duty service member with current diagnosis of schizoaffective disorder. We suspect that her treatment resistance is influenced by her gastric bypass (GBP) history preceding her psychotic symptoms and diagnosis several years earlier. Studies have shown decreased antipsychotic levels following GBP, specifically Roux-en-Y, which may have attributed to her multiple medication failures to include clozapine. Additionally, her case is further complicated by multiple known nutritional deficiencies. This poster will discuss her treatment refractory symptoms, medication failures, and the biological components to include malabsorption, drug blood levels, and nutritional deficiencies.

#### **No. 18**

##### **Can a Smart Phone Application Improve Change Management, Medical Education, Attending Satisfaction, and Patient Outcomes?**

*Poster Presenter: Aryana Misaghi*

*Co-Authors: Tamara Murphy, M.D., Kelly E. Melvin, M.D., Angela S. Thorp, M.D.*

#### **SUMMARY:**

Delivering patient care during the COVID-19 pandemic has required adaptation at every level of the medical system, and this includes medical education (Schwartz et. al.). The Psychiatry

Residency Program at JCESOM excels in diversified clinical exposure and practice; however, preparing trainees to rotate onto new services at multiple training sites can be difficult. Currently, trainees are prepared via written manuals that are disseminated via email, Google Docs, and New Innovations. The lack of a centralized system makes it difficult for trainees to access information quickly. Searching for links and logins also delays access. Prior to COVID-19 restrictions, face-to-face interactions filled in any information gaps present in these documents. Thus, trainees have greater barriers in integrating into clinical sites, which delays their ability to provide quality patient care. As a solution, we propose to develop a mobile app that will contain training information for each of the five psychiatry sites. Before downloading the app onto smartphones, residents and medical students will be surveyed online using Qualtrics. We will ask questions related to trainee preparedness prior to the beginning of rotations and satisfaction with the current system of information sharing. Attendings will be surveyed regarding their satisfaction with trainee performance at each site. Residents, medical students, and attendings will be re-surveyed after downloading and using the app to measure what effect it has had in improving change management between training sites. Participants will include 22 psychiatry residents in all levels of training, approximately 30 3rd-year medical students, and 8 attending physicians. We hope that implementing our phone app will lead to a few important outcomes: increased trainee satisfaction and better change management between sites; increased attending satisfaction with trainee performance; and better patient outcomes due to better integration of the trainees into the healthcare site.

#### **No. 19**

##### **Can Aerobic Exercise Treat Substance Use? The Role Potential Role of Deltafosb Expression in Nucleus Accumbens**

*Poster Presenter: Robert Arnold, M.D.*

*Co-Authors: Charissa Nichols, Emma Miller*

#### **SUMMARY:**

Substance use disorders are one of the most challenging public health and mental health issues of

our time. Despite the approximate 250,000 global deaths attributed to illicit substance use and the 2.5 million deaths from alcohol abuse that occur each year, treatment options are limited (Wang, 2014, Linke, 2014). While long term physical exercise is a known protective factor in preventing future substance use disorders, the role of the enzyme FosB and how this relates to exercise is not entirely understood. This study aims to examine how physical exercise can assist in the treatment of substance use disorders through the accumulation of FosB. A literature review of findings suggests that physical exercise in fact does cause neuroplasticity to the mesolimbic pathway, thereby mediating the symptoms of substance use, cravings and withdrawal. Further research is required to identify the proper types and durations of exercise in order to maximize these effects.

## No. 20

### **Caregiver Educational Handouts: An Important Tool in Enhancing Quality of Care in Ethnic Minorities**

*Poster Presenter: Courtney B. Semotink*

*Co-Author: Raghu Gandhi, M.D.*

#### **SUMMARY:**

**Abstract Introduction:** Psychoeducation refers to educating patients and their caregivers about the mental illnesses and their etiology, symptom presentation, prognosis, and treatment options. Psychoeducation not only makes decision-making process transparent, but also improves treatment adherence. For ethnic minorities and socially disadvantaged families, addressing gaps in mental health literacy may be critical for engaging parents. For example, addressing parent beliefs about mental health services at treatment onset was associated with increased parent engagement in care, in a sample of low income, predominantly ethnic minority youth and their families. One of the ways to improve psychoeducation is through educational handouts. Especially in the inpatient setting, quick access to education handouts is critical to enhance the quality of care and treatment adherence.

**Material and Methods:** A thorough internet search was conducted to compile educational handouts that have already been created for parents and caregivers about their child's mental health

diagnosis. The pediatric mental health diagnoses that were included were attention-deficit hyperactivity disorder (ADHD), autism, anxiety, depression, post-traumatic stress disorder (PTSD), eating disorders, schizophrenia, obsessive compulsive disorder (OCD), and tic disorders. The organizations that were included were the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), American Academy of Pediatrics (AAP), National Institute of Mental Health (NIMH), American Academy of Family Physicians (AAFP), American Academy of Child and Adolescent Psychiatry (AACAP), Mayo Clinic, and Minnesota Department of Health (MDH). **Results:** There were only two organizations that had educational handouts for parents that included each of the pediatric mental health diagnoses listed above and that was AACAP and MDH. NAMI was the third most comprehensive organization as they had handouts for all the diagnoses, except for tic disorders. All of NAMI's educational handouts were provided in English and Spanish. The Minnesota Department of Health (MDH) had an educational handout about autism in English, Spanish, Hmong, and Somali. An educational toolkit with all the handouts in the variety of languages was created to increase ease of accessibility to ultimately improve quality of care.

**Conclusion:** In this poster we discuss the readily available educational handouts for parents through the organizations listed above. It is evident that this is an area for improvement, especially when it comes to languages other than English. To help address the gap in care, we have provided a toolkit with the current educational handouts for easy accessibility. There are no financial disclosures to discuss.

## No. 21

### **Case Report for Chatbots' Clinical Applications to Improve Mental Health in Vulnerable Populations**

*Poster Presenter: Sammi Wong*

*Co-Author: Lan Chi Vo*

#### **SUMMARY:**

**Background:** This case report will report on recent studies that highlight how conversational agents (CA), or Chatbots, have the potential to improve mental health by combating healthcare inequities

and stigma, encouraging disclosure from participants, and serving as companions during the coronavirus (COVID-19) pandemic. CAs' technology currently ranges from a short message service-based testing platform to virtual avatars who chat with participants. With this wide range of complex forms, CAs have the potential to provide more access to mental health resources. **Results:** By promoting self-advocacy for members of vulnerable populations, CAs can provide accessible healthcare by increasing access to resources such as mental health treatment. Simon et al. reported that combining motivational interviewing and cognitive-based therapy (CBT) increased smoking cessation in a sample of adolescent youth of low socioeconomic status [1]. Similarly, a study examining an experimental group (n=34) receiving a CBT text-based CA program, named Woebot, to a control group (n=36) given a self-help electronic book, reported significantly reduced depressive symptoms ( $p=0.01$ ) in the experimental CA group [2]. Therefore, CAs may prove successful in treating youth who find online tools more feasible and approachable. The use of virtual human-based CAs can also encourage disclosure of more stigmatized information by being perceived as less judgmental in comparison to their human counterparts. Lucas et al. found that military service members who believed they were interacting with a computer rather than a human operator reported lower fear of self-disclosure, displayed more sadness, and were rated by observers as more willing to disclose posttraumatic stress disorder symptoms [3]. Meanwhile, the pandemic has shown that empathetic CAs combat the adverse effects of social exclusion. Ishii et al. demonstrated that a virtual CA was as effective as a COVID-19 companion because it uses natural language processing (NLP) and nonverbal facial expressions to give users (n=19) the feeling that they are being empathized [4]. Thus, these agents can promote virtual companionship that mirrors natural conversations and provide emotional support. **Conclusion:** CAs may serve as clinical tools to predict, detect, and determine treatment solutions for mental health conditions. These agents' NLP allow them to be potentially powerful therapeutic agents because they can read and understand spoken or written text in the same way that humans do. This poster will highlight various research studies that show CAs can be a tool

to address mental health access in a new era of telepsychiatry and digital psychiatry.

## No. 22

### Case Report of Levetiracetam-Induced Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis

Poster Presenter: Sarah Richards, M.D.

Co-Authors: Marc Edwards, Garima Garg, M.D.,  
Lendita Haxhiu-Erhardt, M.D.

#### SUMMARY:

Background: Stevens-Johnson syndrome (SJS) and the more severe toxic epidermal necrolysis (TEN) are acute, rare, systemic, potentially life-threatening skin reactions. Pathophysiological mechanisms are speculative, but it is believed that binding of drug-associated antigen/metabolite with major histocompatibility complex (MHC) type 1 or cellular peptide form immunogenic compound. In over 80% of cases, medications are believed to trigger SJS. Pharmacotherapy with antiepileptic drugs (AEDs) is a common trigger (1). Most cases of AED-induced SJS are caused by aromatic AEDs (2). Current research linking levetiracetam (LEV) and SJS is limited. This report is a novel case of LEV-induced SJS and TEN in an adult. Case Presentation: A 41-year-old female with history of seizures and bipolar disorder presented with ulcerations of ~18% of body surface area including oral, nasal, ophthalmic and gynecologic complications and was admitted to the burn ICU. Biopsy confirmed autoimmune process and was diagnosed with TEN. Patient was only taking LEV 500 mg BID consistently, as confirmed by pharmacy. Patient was being treated with methylprednisolone, vancomycin, piperacillin and tazobactam. Hospital stay was complicated by mycoplasma infection and doxycycline was added to the regimen. LEV was discontinued and switched to Valproate by Neurology. Psychiatry was consulted for agitation. Patient was found to be delirious. We recommended continuing Valproate for agitation. Patient's lesions and mental status improved and she was discharged to the LTACH after prolonged ICU stay. After discussion with Neurology, although unlikely, LEV seemed to have triggered SJS and TEN. Discussion: SJS is a deadly condition that can be caused by different medications, commonly AEDs. Levetiracetam (LEV) is a relatively new AED whose

novel mechanism of action is still being fully established (3), but it has been associated with SJS in several case reports (5, 6, 7). It is widely popular due to considerably narrower side effect profile in comparison to other AEDs. However, Arif et al. determined predictors and relative incidences of AED-related rash in patients who took 15 different AEDs. In that study, 0.6% of patients taking LEV developed rashes (4). The patient in this report developed SJS and TEN with full body lesions after using LEV for seizures. She also tested positive for mycoplasma infection which could be a contributing factor in the development of SJS as well. Once LEV was stopped and mycoplasma was treated, patient's lesions improved. Conclusion: Our case demonstrates a potential danger of developing SJS and TEN with newer AEDs. Both prescribers and patients should be educated on this potential side effect. Additional continued research is warranted to establish direct cause and effect between LEV and SJS/TEN.

**No. 23**  
**WITHDRAWN**

**No. 24**  
**Clinical Challenges of Treating Gastrointestinal Complaints in Anorexia Nervosa: A Case Report**

*Poster Presenter: Kristen Strom*

*Lead Author: Ateaya Ali Lima, M.D.*

*Co-Author: Vahideh Tabarzadi, M.D.*

**SUMMARY:**

Anorexia Nervosa (AN) is an eating disorder characterized by ego-syntonic restrictive eating behavior, denial of the diagnosis and ambivalence toward need for treatment. Complaints associated with the digestive system such as such as a feeling of fullness after meals, pain in the upper abdomen, dysphagia, nausea, bloating and constipation (Malczyk). Often these patients undergo extensive gastrointestinal workup to explore these symptoms, without exploring and treating the underlying psychiatric condition Anorexia Nervosa. Even when the diagnosis of anorexia nervosa becomes evident, it remains clinically challenging to differentiate the gastrointestinal complaints from their mental illness or pathology directly related to severe malnutrition

and weight loss (Mascolo). While evidence suggests that most GI symptoms resolve with restoration of weight, treatment is complicated by gastrointestinal symptoms interfering with consumption of food and weight gain. We present the case of a 26 y/o female with anorexia nervosa, who reported multiple gastrointestinal issues, which resulted in exhaustive medical work up, delaying and interfering with appropriate management of her eating disorder, ultimately resulting in her demise. This case exemplifies the need for developing a structured approach to management of gastrointestinal symptoms including enteral nasogastric feeding and collaboration of multiple specialists including psychiatry, internal medicine, gastroenterologists and nutritionists, in management of anorexia nervosa. Through this case, we explore the clinical challenges of managing gastrointestinal symptoms in anorexia nervosa and suggest possible management strategies that can prevent adverse outcome.

**No. 25**  
**Co-Use of Prescription Benzodiazepines/Tranquilizers Among People Who Use Opioids Nonmedically in Urban and Suburban Settings**

*Poster Presenter: Zofia Kozak, M.D.*

**SUMMARY:**

**Objectives:** Co-use of benzodiazepines and opioids significantly increases fatal overdose risk, yet few studies have examined co-use of either drug obtained both licitly and illicitly. We examined associations of daily co-use of medical (i.e. prescribed) benzodiazepines/tranquilizers and non-medical (i.e. not prescribed) opioids among people who use opioids (PWUO). **Methods:** PWUO (N=417) were recruited from Baltimore City and neighboring Anne Arundel County, Maryland and surveyed on sociodemographic characteristics, structural vulnerabilities (i.e. food insecurity), healthcare access and utilization, substance use, and overdose experiences. Multivariable logistic regression was used to identify factors associated with self-reported co-use. **Results:** Participants were 45 years old on average, predominantly male (62%), Black (74%), and unstably housed (64%). Co-use of medical benzodiazepines/tranquilizers and non-medical

opioids was reported by 22%. In multivariable analyses, odds of co-use were significantly higher among participants who: were female (adjusted odds ratio [AOR] 1.74, 95% confidence interval [CI] 1.02–2.96); did not have a high school degree/GED (AOR: 1.71, 95%CI: 1.02–2.87); endorsed recently accessing mental health treatment (AOR: 2.14, 95%CI: 1.28–3.57); and reported daily use of powder cocaine (AOR: 3.61, 95%CI: 1.99–6.53) and synthetic cannabinoids (AOR: 3.05, 95%CI: 1.37–6.80). Odds of co-use were significantly lower among Blacks (AOR: 0.38, 95%CI: 0.18–0.81, ref=White). **Conclusions:** The study indicates a diversity of factors associated with co-use of benzodiazepines and opioids. The clinical encounter provides a unique opportunity to engage these patients. Clinicians prescribing benzodiazepines/tranquilizers should carefully screen patients for co-use and provide harm-reduction counseling to mitigate overdose risks.

#### **No. 26**

##### **Comparing the Mental Health of Medical School Population to a General Student Population**

*Poster Presenter: Amy Adik*

*Co-Authors: Randon Scott Welton, M.D., Christian Seif, Sanjay Jinka*

#### **SUMMARY:**

A growing body of literature demonstrates that significant burnout occurs in as many as 50% of US medical students and is associated with an increased risk of anxiety and depression. These concerns have been heightened by the additional stress placed on society by the COVID-19 pandemic. There is limited data, however, about how students in medical school compare to the general student population in universities. Over 400 universities and colleges across the United State have participated in the Healthy Minds Study. Our study compares the students in a particular mid-west medical school with the average student scores from all the colleges and universities participating in the Healthy Minds Study. The results of the Healthy Minds Study at the Northeast Ohio Medical University (NEOMED) were compared to the average student scores from all the colleges and universities. Categories included emotional distress, previous diagnoses of mental illness, stress regarding financial status, mental

health/social support, psychiatric medications, and barriers to care. There were no statistical differences in the response of NEOMED medical students and general university students when it came to: - Needing help for emotional or mental health problems - Taking psychostimulants, anti-depressants, anti-psychotics, mood stabilizers, or sleep medications - The stress from their financial situation The NEOMED medical students were significantly more likely to: - Have no days in the last month when emotional or mental difficulties hurt their academic performance (p=.005) - Deny the need for help with emotional or mental health problems (p=.047) - State that they had no need for services (p=.00002) or preferred to deal with issues without professional help (p=.002) The NEOMED medical students were significantly less likely to: - Have a previous diagnosis of depression (p=.044) or anxiety (p=.028) - Be willing to talk with a professional clinician (p=0.017), friend (p=.001), significant other (p=.009), or family member (p=.001) about serious emotional distress - Be taking anti-anxiety medications (p=.018) Students at NEOMED seemed to be functioning at or above the level of a general student population with fewer days of emotional distress causing impairment and no difference in the need for mental health services currently or in the past 12 months. They were less likely to be on anti-anxiety medications and no more likely to be on any other category of psychotropic medications. Despite the costs of medical education, NEOMED students did not seem more stressed about finances than the general student population. The hesitation of NEOMED medical students' to talk to professional clinicians, friends, family members, or significant others about serious emotional distress seemed related to resilience rather than barriers to receiving care. Potential next steps could be to compare the Healthy Minds Study results of NEOMED medical students with other medical schools.

#### **No. 27**

##### **COVID-19 as an Added Psychological Stressor for Unaccompanied Migrant Youth on the U.S.-Mexico Border: Psychiatrists Perspectives From the Front Line**

*Poster Presenter: Adrian A. Mejia*



*Co-Authors: Cecilia De Vargas, Eden Robles, Ph.D., Mustafa Moazam, M.D.*

**SUMMARY:**

**OBJECTIVE:** The COVID-19 pandemic has disproportionately impacted migrant populations and especially unaccompanied youth. This study presents strategies from an insider's perspective on addressing the mental health needs of unaccompanied youth. **BACKGROUND:** Unaccompanied youth experience violence in the country of origin, abuse and exploitation during the trip, and separation from the families before and during their journey to the US. Additional stressors include detention, the asylum process, and uncertainty about reuniting with their relatives, fear of deportation, cultural differences, and reintegration challenges. COVID-19 places an additional psychological stressor on this already marginalized group. **METHODS:** This study informs the child psychiatric practice with unaccompanied youth who screen positive for COVID-19 by considering the first-person accounts of pediatric consultation liaisons on the US-Mexico Border during the COVID-19 pandemic. The first-person accounts provide an insider's perspective on addressing unaccompanied youth's complex needs within a consultation-liaison model. The perspectives represented in this study define the experiences of psychiatrists in this rotation within the first half of 2021. **RESULTS:** From 2016-2019, child psychiatry assessed and treated 50 unaccompanied minors (ages 12 to 19 years old) detained at the US-Mexico Border. Diagnostic comparison to general pediatric clinical population indicated higher presence of MDD, PTSD, anxiety and suicidal ideas/attempts. The unique perspectives presented in this study identify critical gaps in service and factors for consideration in the psychiatric treatment of unaccompanied youth facing multiple psychological stressors including those created by COVID-19 infections. Psychiatric perspectives include reflections on the compounding effect of COVID-19 on youth depression, anxiety, hopelessness, suicidal ideas and attempts and a loss of purpose in life not observed in previous interactions with the population. Lessons learned highlight the need for a coordinated community of care to provide for basic needs, maintenance of cultural, religious, and spiritual

traditions, absence of dehumanization and prejudice, and access to medical and mental health facilities in the area. Our team offers strategies for addressing improved coordination and treatment including the need to adapt psychotherapy and safety plans, tailored training for healthcare professionals, and increased awareness among service providers on the complex needs of this population. **CONCLUSIONS:** Through consideration of our experiences, we identify strategies for supporting the complex emotional and psychological needs of unaccompanied youth. Behavioral health professionals can learn their own lessons in assessing the impact of the pandemic on this already fragile population, overwhelmed by a difficult journey, psychological and emotional problems, and providing a reintegration model to the new society.

**No. 28**

**COVID-19 Associated With Increased Psychiatric Emergency Service Use by Patients With High Utilization**

*Poster Presenter: Margaret Okobi*

**SUMMARY:**

**Abstract:** There is evidence that the COVID-19 pandemic has impacted access to psychiatric services. However, existing literature includes conflicting reports regarding the effects of the pandemic on patients with high utilization of psychiatric emergency services. **Objective:** The Boston Emergency Services Team (BEST) program provides psychiatric emergency services to a population with overrepresentation of several marginalized groups, such as homeless/housing insecure persons and communities of color. We sought to examine the impact of the COVID-19 pandemic on the demographics of high utilization BEST populations, and the likelihood that a visit was the fourth or more visit within 10 months. **Methods:** We examined 29,328 emergent psychiatric encounters completed by BEST clinicians, between March 10th and December 31st, for 2019 and 2020, respectively. A high utilization encounter was defined as the fourth or subsequent encounter with a given patient. The analysis included descriptive statistics and logistic regression on two outcomes of interest (1) patient demographics and (2) odds of

high utilization (4 or more BEST encounters). Results: Among encounters of patients with high utilization during the COVID-19 period, mean age (40.5 years [SD 0.2];  $p=0.91$ ), gender distribution (66.8% male;  $p=0.24$ ) and race/ethnicity breakdown (49.9% non-white;  $p=0.32$ ) were commensurate to the pre-COVID-19 period. Overall, 20.9% of encounters involved high utilization (19.8% of pre-COVID-19 encounters, and 22.2% of COVID-19 era encounters). The COVID-19 period was associated with a 13.5% increase (AOR CI=[1.07, 1.20];  $p<0.001$ ) in the likelihood of a high utilization BEST encounter, after accounting for age, gender, race/ethnicity, encounter location, disposition, and insurance status. Conclusions: The COVID-19 pandemic has markedly increased high utilization of psychiatric emergency services in the BEST population. Though the demographic makeup of the high utilization population remained relatively unchanged during the pandemic period, these results indicate that the BEST population contains an uncharacterized subset of patients who utilized emergency services more frequently in the era of COVID-19, perhaps due to worsening mental health, lack of access to lower levels of care, or other factors. Additional research is necessary to further evaluate accessibility of psychiatric services, and alternative pathways to care for high utilization populations.

## No. 29

### Cross-Cultural Care for Depression: Teaching Internal Medicine Residents in the Primary Care Setting

Poster Presenter: Nancy Mylan Dong, M.D.

Co-Authors: Sreekala Raghavan, Michael Greenspan, Eun Ji Kim, Aleena Paul

#### SUMMARY:

Background Depression is underdiagnosed and undertreated, especially among racial and cultural minorities. Primary care is an integral setting for addressing these disparities as depression is commonly diagnosed and treated by primary care providers. Therefore, it is vital to educate physicians about providing cross cultural care to address barriers in depression management. This study uses mixed methods to examine the impact of a novel didactic on providing culturally informed

assessment, diagnosis, and management of major depressive disorder (MDD) in the primary care setting. Methods The didactic was developed with the internal medicine department and consisted of a patient case, introduction of the ETHNICS (explanation, treatment, healers, negotiate, intervention, collaborate, spirituality/seniors) framework for interviewing patients in a culturally appropriate manner, and a script-based patient counseling demonstration. Internal medicine (IM) residents at one residency program were required to attend the workshop as part of their ambulatory curriculum. A post-workshop survey assessed sociodemographics and clinical care, as well as confidence in treating patients with MDD from different cultural backgrounds pre- and post-didactic session using a 5-point likert-scale (total score of 40 being the highest). We performed descriptive statistics and paired t-test analysis using the STATA software. Results 89 residents attended the workshops. 39% ( $n=35$ ) responded to the survey: 18 PGY1s, 12 PGY2s, and 5 PGY3s. 94% of respondents ( $n=33$ ) indicated that their ability to diagnose and manage MDD was “somewhat better” ( $n=29$ , 82.9%) or “much better” ( $n=4$ , 11.4%) after the workshop. Residents reported more overall confidence in managing patients with MDD from different cultural backgrounds after the workshop ( $29.2 \pm 3.9$ ) compared to before the workshop ( $21.7 \pm 5.0$ ) ( $p<0.01$ ). Subgroup analysis indicated a significant increase in confidence for all eight surveyed domains of clinical care with patients of different cultural backgrounds: recognizing variability in MDD symptoms, discussing the diagnosis, providing counseling on treatment options, initiating and monitoring therapy, identifying indications for referrals, and providing community resources. Analysis of responses to the open-ended questions about applicability of the session to clinical practice revealed themes of learning to “use patients’ own words” to discuss symptoms, increased comfort with initiating medications for MDD, and identified time constraints in the clinic as a continued barrier. Conclusions The didactic workshop incorporating the ETHNICS mnemonic and a script-based patient counseling improved the confidence of IM residents in providing culturally informed care of MDD in the primary care setting. Further research would examine the impact of this workshop on patient

outcomes, such as rates of diagnosis, initiation of care, and adherence to treatment within the resident ambulatory clinic.

**No. 30**  
**Depression Induced Cognitive Dysfunction and Changes in the Hippocampus**

*Poster Presenter: Diego David Garces Grosse, M.D.*

**SUMMARY:**

With Major Depressive Disorder (MDD) being a very prevalent mental problem, it is not surprising that it is one of the greatest causes of disability worldwide. MDD causes a wide variety of symptoms, not just depressed mood and anhedonia. Cognitive symptoms of MDD are often overlooked, with most clinicians prioritizing mood and neurovegetative symptoms. In this review we delve into the physiologic and biological CNS changes that have consistently been found in patients suffering of MDD. Research has shown multiple biological changes in the CNS, particularly in the Hippocampal Complex (HC). The HC has been a particular interest of research in depression, showing thus far a dysregulation of the feedback control of the hypothalamic-pituitary-adrenal axis alongside with increased neurodegeneration and decreased plasticity and neurogenesis. Ultimately, imaging studies have consistently found evidence of decreased volume of the HC associated with depression. Changes in the HC have been seen in depressed patients as young as 3 years old. Questions have risen about association versus causality. Opposing theories hypothesize that depression causes these changes in the HC whereas other theories claim that having smaller HCs would increase a patient's risk of suffering of major depressive episodes. Conflicting evidence shows that these changes in the HC in young patients are present since early in the progression of the disease. This suggest that changes would not be a result of recurring or chronic episodes. On the other hand, there is strong evidence showing that hippocampal volume inversely proportional to duration and severity of disease and also with number of episodes. Furthermore, evidence has consistently shown that adequate antidepressant treatment (including pharmacological, Electroconvulsive

Therapy and Transcranial Magnetic Stimulation) may be preventive for developing hippocampal changes such as neurodegeneration and decreased volume of the HC. Adequate treatment and resolution of symptoms has also been associated with reversal of changes in the HC and increased neurogenesis and plasticity. Decreased hippocampal volume is also a frequent finding in Alzheimer's disease (AD). Studies focusing on depression and AD have found that individuals with depression have a doubled risk of developing AD when compared to subjects without depression, and have proposed that depression is, in fact, a risk factor for developing AD. There is still ongoing research focused on the pathophysiology of depression and the biological changes that occur at the hippocampus. Whether these changes are a risk factor or a result of depression is a question that is still to be answered.

**No. 31**  
**Diagnostic and Treatment Difficulties in a Patient With Malignant Catatonia and Psychosis After Delivery**

*Poster Presenter: Jasmine Kim*

*Co-Authors: Michelle Prakash, Meghana Medavaram, Hallie Knopf*

**SUMMARY:**

We present the case of a woman with symptoms of new-onset psychosis and malignant catatonia in the post-partum period. The patient is a primigravid 18-year-old female with no past medical history and no formal psychiatric history who presented at 39 weeks gestation and had an uncomplicated vaginal delivery. On post-partum day 2, psychiatry was consulted for an acute change in mental status after a brief period of abnormal shaking. The patient exhibited symptoms concerning for psychosis, with paranoid delusions, visual hallucinations, and disorganized thought content and process. Over the course of 3 days, the patient also developed symptoms of malignant catatonia, including mutism, rigidity and autonomic dysfunction (fever, hypertension and tachycardia). Given the severity of her symptoms, she was transferred to the neurologic intensive care unit. The differential for this patient's neuropsychiatric symptoms remained broad and included delirium due to occult medical etiology

(such thyroiditis, urea cycle disorders, occult infection), autonomic encephalitis, malignant catatonia, and post-partum psychosis. An extensive work-up was done to attempt to clarify the diagnosis, including a lumbar puncture and EEG, which was largely unremarkable. The patient received a short course of empiric treatment for NMDA encephalitis with methylprednisolone, which led to an improvement in her vital signs and mental status. After she was medically stabilized, she was transferred to an inpatient psychiatric unit for treatment of post-partum psychosis and managed with antipsychotics and benzodiazepines. She was ultimately stabilized with the addition of lithium. The patient was successfully discharged home at six weeks postpartum with close supervision from her social supports who actively cared for her child. This case highlights the diagnostic and management challenges of acute mental status changes in the postpartum period, particularly in the setting of complex neurological symptoms. In this poster, we discuss our conceptualization of the case and considerations when deciding on the appropriate workup and treatment regimen. We propose a unique approach to understanding the complex interplay of these neuropsychiatric conditions using infographics.

### **No. 32**

#### **Diagnostic Profiles and Demographic Data of Children and Adolescents Enrolled in an Intensive Outpatient Program in Northern California**

*Poster Presenter: Yazeed Ibrahim, D.O., M.S.*

*Co-Author: Sharon Houk-Syau*

#### **SUMMARY:**

Background: psychiatric rehospitalizations for children and adolescents are common, costly, and debilitating to patients and families. Over a third of children and adolescents admitted for psychiatric reasons are re-hospitalized within one year of discharge and most re-hospitalizations occur within ninety days of discharge. Intensive Outpatient Programs (IOP) are widely utilized by health systems to provide patients a higher level of psychiatric support especially after discharge from inpatient mental health facilities. Exploring the length of hospitalizations, diagnostic profiles, and

demographic characteristics of patients enrolled in IOPs can help better understand the population and identify special needs that may help prevent rehospitalization and achieve better outcomes. Objective: exploring the characteristics and diagnostic profiles of patients enrolled in IOPs can help better understand the population and identify special needs including out-reach services that may help prevent hospitalizations and achieve better outcomes. Methods: we reviewed hospitalization and post hospitalization psychiatric care for all children and adolescents at a large healthcare system in Northern California hospitalized for psychiatric reasons between January 2020 and December 2020. We conducted chart review to identify length of hospitalization, diagnostic profiles, and demographic characteristics for patients who were referred, enrolled, and completed IOP. We identified length of participation in IOP and graduation rates for all enrollees. Results: 118 hospitalizations were considered for IOP after discharge. IOP services were offered after 90 hospitalizations consisting of 26 male and 64 female patients. Of those, 38 identified as Caucasian, 36 as Latino/a, 13 as Asian American, and 3 were of other ethnicities. Of the 90 hospitalizations offered IOP, 64 enrolled, and 35 graduations were recorded. A total of 72 of the 90 hospitalized patients offered IOP had a discharge diagnosis of depressive disorders, 9 of anxiety disorders, 8 of mood disorders, 8 of substance use disorders, 3 of adjustment disorders, and 1 with psychotic disorder. The average length of inpatient hospitalization prior to IOP was 5.24 days (SD 3.18 days) for all patients offered IOP. IOP enrollees participated in the program for an average of 36.80 days (SD 22.37 days). Conclusions: the vast majority of children and adolescents hospitalized for psychiatric reasons in our catchment area are offered IOP after discharge with high rates of completion and graduation to care as usual. The IOP patient population at Kaiser San Jose Child Psychiatry is ethnically diverse with a predominant diagnosis of depressive disorders at the time of discharge. Education regarding substance use, factors predisposing to anxiety and depressive symptoms through community outreach may be the next steps in getting timely care and possibly prevent re-hospitalization.

### No. 33

#### Dissociative Fugue and the Role of Social Media in Identifying an Unknown Male

Poster Presenter: Nicholas Jose Dumlao, M.D.

##### SUMMARY:

**Background** Dissociative amnesia, also referred to as psychogenic amnesia, is a type of retrograde memory loss often associated with traumatic or stressful life events. While its prevalence in the medical literature is limited and it is understood to be a rare disorder with no changes noted on imaging studies, functional imaging analysis has identified impairments in a number of regions including the hippocampus, prefrontal cortex and temporal lobe. The etiology of dissociative amnesia may include triggers such as stressful or traumatic events such as war, natural disasters, and physical assaults. Current studies reviewed indicate that disparities exist when managing distress based amnesia when compared to those amnesias that present with organic etiologies. **Methods** A case report as well as a review of research and literature for dissociative amnesia was conducted. **Results** This case report describes a healthy middle-aged man who experienced retrograde autobiographical memory loss following a recent divorce and job loss. The patient presented to the emergency room after claiming to be attacked by strangers on the street. Radiographic imaging of the head revealed no acute changes. The patient suffered mostly from autobiographic memory loss, while semantic memories remained intact. During his admission on the medical unit, patient had a suicide attempt via hanging and poor recall of the event. Management of comorbid anxiety and depression allowed progressive relearning of information. Additionally, internet searches and social media posts helped to identify the individual, and slowly helped the patient regain full memory of his life. Recent history showed evidence of multiple traumatic events giving support that a main cause of dissociative amnesia and fugue state is due to psychogenic phenomena. **Conclusion** While a rare occurrence, the presence of dissociative amnesia may present with a challenging clinical course including comorbid psychiatric and organic diagnoses. Ensuring a thorough diagnostic work up is critical to prevent disparities in managing distress based amnesias.

### No. 34

#### Does Established Outpatient Care Improve Follow-Up After Mental Health Hospitalization in Youth and Young Adults?

Poster Presenter: Julie Hugunin

Lead Author: Kate Lapane

Co-Authors: Jonggyu Baek, Maryann Davis

##### SUMMARY:

**Background:** Follow-up within 7 and 30 days of a mental health hospitalization are national quality measures<sup>1,2</sup> associated with improved medication adherence, decreased suicide risk, and increased healthcare engagement.<sup>3,4</sup> Among Medicaid insured youth and young adults, about half receive outpatient mental health follow-up.<sup>3,5</sup> Youth and young adults experience unique challenges given they typically interact with multiple systems and agencies<sup>6,7</sup> and many are underserved in current mental health systems.<sup>8</sup> **Objective:** To determine rates and predictors of follow-up care within 7 and 30 days of a mental health hospitalization among youth and young adults with private insurance. **Methods:** This retrospective cohort study uses the IBM<sup>®</sup> MarketScan<sup>®</sup> Commercial Database (2013-2018) to identify youth and young adults (12-27 years) with a hospitalization for major depressive disorder (51.7%), bipolar disorder (41.1%), comorbid substance use (12.4%), other psychotic disorders (5.8%), schizophrenia (4.5%), suicide/self-harm related (3.3%), anxiety disorder (2.7%), post-traumatic stress disorder (0.9%), conduct disorders (0.8%), and phobias (0.1%) based on primary ICD-9/ICD-10 discharge codes (n=117,932). Outcomes included receiving outpatient mental health and primary care follow-up within 7 and 30 days of discharge. Logistic models with generalized estimating equations accounted for state variation and were used to examine predictors of follow-up. Adjusted odds ratios (aOR) and 95% confidence intervals (CI) were derived from models including age, sex, healthcare plan type, mental health conditions, and medical complexity.<sup>9</sup> **Results:** Fifty-five percent were female and 55.7% were 12-17 years of age. Established outpatient healthcare use in the six months prior to hospitalization was observed in 72.7% (49.4% mental healthcare, 55.4%

primary care). Overall, 35.6% received any outpatient follow-up within 7 days (30.2% mental healthcare, 8.8% primary care) and 61.9% received care within 30 days (52.4% mental healthcare, 24.4% primary care). Established outpatient mental healthcare was the strongest predictor of mental health follow up (30-day: aOR 4.25, 95% CI 3.99-4.53) and any follow up (30-day: aOR 4.00, 95% CI 3.76-4.26). As compared to those with no established outpatient care, those with established primary care had higher odds of receiving any follow-up (30-day: aOR 1.93, 95% CI 1.85-2.03) and mental health follow-up (30-day: aOR 1.30, 95% CI 1.25-1.37). Similar patterns were observed for 7-day follow-up. *Conclusions: Among privately insured youth and young adults, many did not receive outpatient follow-up care after discharge from a mental health hospitalization.* Having established outpatient healthcare use, particularly mental healthcare, predicted follow-up care. Efforts to improve access to and engagement with outpatient mental healthcare providers early in the clinical course of a mental health condition may increase rates of follow-up care.

### No. 35

#### **Effects of the COVID-19 Pandemic on Social Determinants of Mental Health and Psychiatric Decompensation**

*Poster Presenter: Arun Prasad, M.D.*

*Lead Author: Joshua Adam Jay, M.D.*

*Co-Author: Eric Garrels, M.D.*

#### **SUMMARY:**

**Objectives** Covid-19 has impacted healthcare delivery across every setting and patient population since it began ravaging our communities in early 2020. The impact of the pandemic has propelled changes in healthcare delivery, incorporating new technologies and resulting in interruptions of care and impacting access to treatment. The aim of this study was to understand the various ways in which the COVID-19 pandemic has affected mental health, particularly in those with psychotic disorders; a group vulnerable not only to disruptions in their access to care, but to their daily lives. There is evidence that mental health is negatively affected during epidemics and public health crises. The

unique nature and scale of the COVID-19 pandemic today presents an opportunity to learn more about the challenges faced by our patients and improvements that can be made in the delivery of mental healthcare. **Methods** We report five cases of patients with preexisting psychotic disorders seen on the inpatient psychiatry unit of an inner city community hospital. These patients decompensated for various reasons relating to the COVID-19 pandemic. In addition, we conducted a review of the existing literature on the effects of epidemics and pandemics on mental health by searching the PubMed database for the keywords “mental health,” “psychosis,” “COVID-19,” “epidemic,” “pandemic,” and “coronavirus.” **Results** The ramifications of public health crises on mental health are broad and well documented. The prevalence of psychotic disorders in the US is estimated to be between 0.25% and 0.64%. In the context of an epidemic or pandemic, the incidence of psychotic symptoms in those infected with a virus is estimated to be between 0.9% and 4%, demonstrating increased risk to this group. While the effects of the COVID-19 pandemic have led to psychiatric decompensation in obvious ways, such as difficulty accessing medication, there have also been less predictable outcomes. For example the effects of newly-emerging tele-health visits as the primary evaluation tool and impacts of new-found paranoia combined with a bustling public transportation system. **Conclusions** The COVID-19 pandemic presents us with an opportunity to identify ways in which our patients are at risk and how we can attempt to alleviate those risks to provide improved care going forward. Many patients with psychotic disorders are at risk for disruptions in their access to regular care even outside the context of a pandemic, so remaining vigilant during pandemic times should be of utmost importance. By appreciating the multifaceted ways in which the current situation has affected our patient population, we can extrapolate lessons that will allow us to better serve our patients even when this pandemic passes.

### No. 36

#### **Evaluation and Action for Medical Professionals in Cases of Abuse of Power of Attorney or Guardianship in Patients With Capacity**

*Poster Presenter: Sofia Andreevna Quiroza, D.O.*

Co-Author: Allie Thomas-Fannin

**SUMMARY:**

A 45-year-old Caucasian female with a past psychiatric history of Schizoaffective Disorder, bipolar type with Generalized Anxiety Disorder presented to the hospital with psychotic behavior in addition to ketosis, malnourished with a urinary tract infection. This patient has had multiple hospitalization over the past 15 years with progressive worsening of symptoms not aligning with typical presentation seen in Schizoaffective Disorder and Anxiety. The mother became the Power of Attorney, 12 years ago, and took over control of medical care even with proven patient capacity. The mother refused medication adjustments, pulled the patient out of the hospital and refused therapy. The ethical question of whether the power of attorney was acting in the best interest of the patient was evaluated. Although the patient was college educated and within capacity to make decisions, her severe characteristics of Dependent Personality Disorder made her unable to initiate actions or decisions against her mother and power of attorney. In this poster, we discuss the challenges of protecting vulnerable patients from abuse by power of attorney or guardianship in the setting of medical care.

**No. 37**  
**Exploring Law Enforcement Mental Health and Perceptions on News Media Portrayal: A Mixed Methods Approach**

Poster Presenter: Ricky Madhavan  
Co-Authors: Hilary S. Connery, M.D., Ph.D., Robert P. Drozek, Rachel Tester, N.P.

**SUMMARY:**

Police violence is a growing national concern in the United States and abroad. Recent high profile media coverage of unarmed civilians killed by police are a contributing factor to increased tensions between civilians and

law enforcement. Law enforcement officers (LEOs) are at increased risk of health disorders, including depression, post-traumatic stress disorder, and substance use disorders; however, LEO concerns about confidentiality and occupational security are leading barriers to accessing mental health care. Emerging research on the impact of news media portrayals of LEOs on police legitimacy suggest the possibility that media reports may be contributing to LEO-specific mental health risks. To explore this further, we designed a quality improvement study to assess media perceptions among LEOs receiving acute mental health/substance use treatment in a residential care setting.

**METHOD:** We surveyed the attitudes of a small group of officers (n=9) and collected mental health data using PHQ-2 and GAD-2. All respondents were required to be active-duty members of a law enforcement department and currently receiving care from McLean Hospital. Officers were asked to complete a 16-point survey exploring their attitudes regarding news media portrayal of their profession and whether it has affected their job performance and satisfaction. LEOs were asked to respond to statements regarding news media and policing using a 5-point Likert scale (Strongly Agree to Strongly Disagree). Statements included: "The news media depicts police accurately", "The news media's portrayal of police affects how I do my job", and "The public's view of policing is negatively influenced by the media". Then, LEOs were given time to provide a verbal, free

response rationale for their answers in a confidential, de-identified manner.

**RESULTS:** Of the 9 respondents, only 3/9 and 2/9 screened positive on PHQ-2 and GAD-2, respectively. Respondents overwhelmingly responded negatively (100% disagreed or strongly disagreed) to whether they felt the news media portrayed them fairly or accurately. All respondents (n=9) disagreed that police were viewed more favorably today than 2 years ago. All 9 respondents agreed that attitudes towards police were worse today compared to 2 years ago. Respondents gave mixed responses to the statement “*I regret becoming a police officer*”. Four major thematic elements were coded from transcribed interview data which mainly concerned belief that police were mostly good and that media narratives were unbalanced and harmful.

**CONCLUSION:** LEOs held similar views regarding what they described as negative portrayal of their profession by the news media. They also tended to believe part of their portrayal was politically motivated, unfair, and failing to cover all aspects of law enforcement. Additionally, LEOs consistently compared how mistakes in their work were treated more critically than other first responders. LEOs self-reports within both survey and open interview consistently suggested that the current media portrayals of LEO create a chronic environmental stressor that may be important to address in settings that provide mental health/substance use care and in programs targeting prevention and wellness.

### No. 38

#### Hallucinogen-Persisting Perception Disorder With Ketamine Exposure

Poster Presenter: Holim Lee

Co-Author: Mani Yavi

#### SUMMARY:

Introduction: Hallucinogen-persisting perception disorder (HPPD) is a rare condition characterized by recurrence of visual perceptual disturbance following hallucinogenic substance use. While ketamine has been reported to have dissociative and hallucinogenic effects, there are no published case reports of HPPD following subanesthetic ketamine exposure to the best of our knowledge. Case Report: A 26-year-old female patient with no significant medical history and psychiatric history significant for anxiety and treatment-resistant depression (TRD) presented for participation in a clinical trial of repeat-dose ketamine infusion for TRD. Patient reported previous alcohol and cannabis use 7 months prior presentation. She denied other substance use, including LSD, ecstasy, mushrooms, psilocybin. There was no past use of ketamine. Onset of visual disturbance occurred 8 weeks after first ketamine infusion. Four initial ketamine infusions were at a dose of 0.5 mg/kg, followed by 8 repeat infusions at either dose of either 0.5 or 0.1 mg/kg, unknown due to randomization of study protocol. However, after the 11th infusion, she reported visual disturbances, described as “pixelation and color distortion” and a subjective limitation in her ability to identify new people or objects. Disturbances in movement of stationary objects and perceptual changes of colors were also reported. Patient denied any previous experience with these symptoms and denied any alleviating or aggravating factors. Hallucinations were persistent even with eye closure. Ophthalmologic assessment revealed a normal eye exam and optical coherence tomography. The Neurologic exam remained unchanged from initial assessment. MRI brain showed normal brain with no acute or past pathology. At the time of discharge, the patient endorsed persistent visual disturbances 5 weeks post last ketamine infusion. Conclusion: To the best of our knowledge, this is the first reported case of HPPD secondary to treatment with subanesthetic doses of ketamine. HPPD is an underdiagnosed



condition, and it is important for clinicians to be aware of the potential occurrence associated with hallucinogenic substances. This case in particular highlights the potential for development of HPPD with ketamine even at subanesthetic doses.

### **No. 39**

#### **He's Psychotic. It Must Be Psychiatric! The Critical Role of Psychiatry as Advocates in Medically Ill Patients**

*Poster Presenter: Jonathan Mason Allen, M.D.*

#### **SUMMARY:**

Mr. M is a 55-year-old homeless male with a history of methamphetamine use disorder who was admitted to the hospital with new decompensated heart failure. On admission he was noted to exhibit disorganization, delusions, and endorsed hallucinations. Initially, the patient's altered mental status was thought to be due to delirium or substance use. However, the patient's mentation failed to improve despite medical stabilization and sobriety, confirmed by repeat negative urine drug screens. He claimed to be exorbitantly wealthy, being owed millions by his family in the Philippines and that he was one of youngest bankers in the world. Despite the grandiose statements, the patient exhibited no other signs or symptoms of mania and had no clear history suggestive either. The basic medical work up for delirium was unremarkable. Psychiatry was consulted to rule out an underlying psychiatric disorder. A thorough assessment was completed which was not suggestive for a primary psychiatric disorder. A chart review and history revealed no prior history of any psychiatric disorder and the psychiatry consult liaison team advocated for further workup. Despite this assessment, the patient's medical notes assigned the patient's altered cognition to an 'underlying psych issue' and no further workup was done. Interestingly, the patient told several members of the psychiatry team that he has a "brain tumor," though there was no record of this nor was a mass visualized on a CT prior to admission. However, on hospital day 11, the patient experienced a ground level fall while on warfarin and a head CT scan was obtained to rule out any bleed. A small hyperdense region was noted, the differential of which included a mass,

autoimmune disorders, and infectious etiologies all of which can present with psychiatric symptoms [1]. Further imaging and workup determined the finding to be a meningioma, which is commonly associated with psychiatric symptoms [2]. This case reflects a common practice, treating psychiatric symptoms as a diagnosis, instead of manifestations of an underlying illness. As astutely noted in one case report, "...the presence of psychiatric symptoms is, in a sense, a focal neurologic abnormality..." and should be assessed accordingly. [3] If this patient had not fallen it is likely that these findings would have been unknown until symptoms had progressed, highlighting the barriers that patients with psychiatric symptoms face trying access care in hospital settings. In patients who are homeless, use substances, or lack a social support system, these barriers increase significantly, delaying care while extending length of stay. Studies indicate significantly improved outcomes in patients who received consult psychiatry services, including decreased length of stay and improved survival [4] [5]. Psychiatric consultants play a critical role in advocating for patients and ensuring that psychiatric symptoms in the medically ill are thoroughly assessed and treated.

### **No. 40**

#### **High Incidence of Depression and Anxiety Following Antibiotic Spacers for Periprosthetic Joint Infection After Total Hip and Knee Arthroplasty**

*Poster Presenter: Simone Ariel Bernstein, M.D.*

*Co-Authors: Alex Gu, Joshua Campbell, Savyasachi Thakkar*

#### **SUMMARY:**

Introduction: The management of periprosthetic joint infection (PJI) often requires multiple surgeries with prolonged courses of antibiotics resulting in functional incapacitation, decreased quality of life, and increased postoperative morbidity and mortality. Such stressors adversely affect patients' mental health and are largely overlooked in the treatment of PJI despite a mood disorder prevalence between 22-26% among the arthroplasty population. Broadly in arthroplasty, the role of mood disorder comorbidities, such as depression and anxiety, have been shown to increase the rate of severe post-

operative pain and opioid consumption (Odds Ratio[OR] 15.5), infections (OR 1.33), and readmission (OR 1.21-1.24). Despite the known effects of mental health on outcomes, the role PJI treatment plays in the development and relapse of mood disorders remains largely unreported. This study aims to report on the incidence of depression and anxiety following antibiotic spacer placement for PJI. Methods: Patients who underwent antibiotic spacer for periprosthetic joint infection (PJI) following THA or TKA were identified in a national insurance database (PearlDiver technologies) using Current Process Terminology codes 27091 for hip antibiotic spacer and 27488 for knee antibiotic spacer and International Classification of Diseases codes specific for PJI. In addition, patients that underwent aseptic revision THA and TKA were identified using CPT code. Incidence of initial depression, recurrent depression and anxiety were identified within 1 year following antibiotic spacer among the PJI and aseptic revision THA and TKA cohorts, respectively. Descriptive and univariate analysis were conducted on this cohort. Results: In total 108,858 patients were included in this study; 58,899 revision total knee arthroplasty (rTKA), 11,167 rTKA secondary to PJI, 34,884 revision total hip arthroplasty (rTHA), 3,908 rTHA secondary to PJI. Incidence of new-onset depression, recurrent depression, anxiety, and combined anxiety and depression are reported in Table 1. Relative to rTKA risk of depression in patients receiving antibiotic spacer placement for treatment of PJI have a higher incidence of new depression (OR 3.67;  $p < 0.01$ ), anxiety (OR 5.12;  $p < 0.01$ ), and anxiety and depression combined (OR 3.60;  $p < 0.01$ ). Relative to rTHA risk of depression in patients receiving antibiotic spacer placement for treatment of PJI have a higher incidence of new depression (OR 4.54;  $p < 0.01$ ), anxiety (OR 6.00;  $p < 0.01$ ), and anxiety and depression combined (OR 4.85;  $p < 0.01$ ). Conclusion: There is a high incidence of depression and anxiety among patients that undergo the 1<sup>st</sup> stage of a 2-stage revision for THA or TKA for PJI. Physicians should be cognizant of this risk and strongly consider collaborative care with psychiatrists or mental health professionals.

#### No. 41

#### **Hounded by the Hooded: A Possible Case of Peduncular Hallucinosis**

*Poster Presenter: Gauri Wable, M.D., Ph.D.*

*Co-Authors: Matthew Forster, Kendra Anderson, Ali Noorbaksh*

#### **SUMMARY:**

**Introduction** Peduncular hallucinosis (PH) is a rare condition with vivid visual hallucinations (VH) of people and animals, most commonly following lesions in the rostral brain stem. Two mechanisms have been proposed for the etiology of PH. The first is an imbalance between excitatory cholinergic and inhibitory serotonergic pathways. Thus, SSRIs have been proposed as a treatment. The second is hyperdopaminergic signaling, which may explain response to dopamine antagonists. This case report aims to add to the literature about this rare disorder, so that we may better diagnose and treat it. **Case Description** We describe the case of a 55-year-old Caucasian male with VH for ten years. The VH consisted of “stick people” and “humanoid shadows” that silently walked between rooms and occasionally congregated around him. The VH occurred only at night, when he was alone, during periods of sobriety and euthymic mood, and in the setting of balance/gait changes and slurred speech. He reported anxiety and depression secondary to the VH, and was coping by drinking alcohol and staying up at night with the lights on. He also described a recurrent intrusive image since seventh grade of an “evil face” when he closed his eyes and most often in social isolation. This face would utter an unintelligible word, and these episodes would be followed by a panic attack. Medical history included atrial fibrillation (status post ablation with partial success), an unruptured brain aneurysm, multiple traumatic brain injuries, a possible stroke, and alcohol use disorder (AUD). A medical workup including a complete blood count, comprehensive metabolic panel, urine analysis, lipid panel, thyroid stimulating hormone, and EKG was clinically unremarkable. Blood alcohol level at presentation was 0.11. A urine drug screen and standard toxicology screen were negative. The patient’s cognitive profile was characterized by generally intact cognitive functioning with isolated impairments in processing speed and right hand

motor dexterity in the context of reported intact functional abilities. Quetiapine (titrated to 400 mg/day) was prescribed for mood, anxiety and psychotic symptoms. Gabapentin was added for anxiety and to reduce alcohol intake. Vitamin supplements were added for AUD. The patient denied experiencing the VH while in the hospital. Thus, prior to discharge, it was not known if the quetiapine was effective for reducing them, but it was reported to be effective for mood, anxiety as well as the intrusive images. **Discussion** Our patient's presentation was consistent with several features of PH, including occurrence of VH at night, reported history of a stroke with balance issues, preserved insight, and sleep problems. In addition to targeting the patient's intrusive images and associated depression and anxiety, quetiapine was started for the VH based on the hyperdopaminergic signaling proposed by PH literature.

#### **No. 42**

##### **Impact of the COVID-19 Pandemic on the Mental Health of Puerto Rican Medical Students**

*Poster Presenter: Jose Juan Hermina Perez*

*Co-Authors: Valeria Rullan, Iris Parrilla Boria*

##### **SUMMARY:**

**Background:** Previous studies have demonstrated that medical students experience significantly higher mental-health-related disorders than the general population. In addition, studies have indicated that the COVID-19 pandemic has exacerbated mental-health concerns. This report demonstrates how medical students studying in Puerto Rico amid the COVID-19 pandemic are experiencing high levels of anxiety, depression, and suicidal ideation. **Methods:** The Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9), and individualized questions were provided to students from all four medical schools in Puerto Rico during the COVID-19 pandemic. **Results:** With more than 400 responses, results indicate that over 50% of medical students suffer from moderate to severe depression, and over 60% have experienced moderate to severe anxiety. Approximately 14% of students reported having suicidal ideation since the start of the COVID-19 pandemic. Our findings indicate that the mean scores for both the GAD-7 and PHQ-9 were

significantly higher for students who declared having suicidal ideations. Furthermore, most individuals that reported having suicidal ideation identified as female and were more likely to be a first-year medical student or from a sequentially higher-class year. **Conclusion:** The mental health of medical students in Puerto Rico during the COVID-19 pandemic had not been studied before. The lasting effects of the pandemic on students' mental health could be damaging to their careers. Acknowledging the high rates of anxiety, depression, and suicidal ideation could lead to implementing beneficial interventions to address students' mental health.

#### **No. 43**

##### **Implementation and Preliminary Outcomes of a Virtual Mentorship Program for Asian American Child and Adolescent Psychiatrists and Trainees**

*Poster Presenter: Jennifer Rahman, M.D.*

*Co-Authors: Megan Lin, D.O., Xiaoyi Yao, M.D., Kelly Yang, B.S.*

##### **SUMMARY:**

**Objective:** There is a great need for mentorship among medical trainees belonging to underrepresented and minority communities.<sup>1</sup> Mentorship may improve the retention and experiences of these trainees.<sup>2</sup> We describe the implementation and preliminary outcomes of a virtual mentorship program for Asian American and Pacific Islander (AAPI) members of the American Academy of Child and Adolescent Psychiatry (AACAP). **Methods:** Drawing from existing literature on effective models of mentorship in psychiatry,<sup>3</sup> a virtual mentorship program was designed and implemented. An initial needs assessment was conducted to quantify and characterize overall interest in mentorship among members. The results of this survey then informed a meet-and-greet event, followed by the pairing of mentor and mentees based on preference for mentors, training level, location, and area of expertise. Outcomes of this mentorship program will be assessed and used to inform future iterations of the program. **Results:** Out of 156 members of the AACAP Asian caucus, 57 expressed interest in participating in the mentorship program on initial needs assessment. Of these individuals, 16 (28.1%) were early career

psychiatrists, 12 (21.1%) were medical students, 9 (15.8%) were mid-career psychiatrists, 8 (14%) were residents, and 4 (7%) were child & adolescent psychiatry (CAP) fellows. Twenty-three (41.1%) were interested in being mentees, 23 (41.1%) were interested in being both mentors and mentees, and 11 (19.%) were interested in being mentors. The three most desired topics of mentorship were career development advice (N=38, 80.9%), research (N=26, 55.3%), and work-life balance/burnout (N=25, 53.2%). Mentors most commonly offered guidance on work-life balance/burnout (N=28, 77.8%), career development (N=26, 72.2%), and self-advocacy at work (N=24, 66.7%). Twenty-three individuals of varying training levels attended the meet and greet, which involved rotating groups for mentors and mentees to mingle. Ultimately, 56 individuals (98.2%) participated in the mentor-mentee matching process. A total of 29 mentor-mentee pairings or groups were established. Fifty-four individuals were paired with either a mentee, a mentor, or both. Due to a high demand for mentorship, 6 mentors had more than 1 mentee, and 11 individuals desiring mentorship were unable to be paired due to a lack of suitable mentors (e.g. higher training level, mentorship needs, etc.). As a result of these findings, additional forms of mentorship such as group, peer, and interest-based mentorship are being explored. Conclusions: We describe the implementation of a virtual mentorship program for the Asian caucus of a national organization of CAPs. Significant need for mentorship exists among the Asian American community of CAPs. Future goals should include assessing the effectiveness of the mentorship program and exploring other forms of mentorship, given the relative shortage of available mentors.

#### **No. 44**

##### **Improving Access to Community Support for Suicidal Patients Post Hospital Discharge**

*Poster Presenter: Laura Alexis Hayes, D.O.*

*Lead Author: Rahat Whig, D.O.*

##### **SUMMARY:**

**Background:** Research suggests that the year following discharge from psychiatric hospitalization is a high-risk period for suicidal behavior, especially in patients initially hospitalized after a suicide

attempt. The period following discharge from psychiatric hospitalization should be regarded as a distinct phase of care associated with an extraordinary suicide risk. The BestConnections program through BestSelf Behavioral Health is a program designed to aid patients at high risk for suicide transition from the hospital setting back into the community. Our team works closely with the BestConnections' Hospital Navigators to facilitate this Quality Improvement project. **Objective:** The aim of this Quality Improvement (QI) Project is to improve attendance from the baseline rate of 75% to 85% in patients aged 18 to 65 years old enrolled in the BestConnections program over a 12-month time span. **Methods:** A multidisciplinary QI team performed root cause analysis to assess provider, patient and system related barriers to successful outpatient follow up following discharge. The Plan-Do-Study-Act (PDSA) method of healthcare improvement was implemented. PDSA cycle 1 addresses the Navigator access to behavioral health units. PDSA cycle 2 addresses the Navigator access to the EMR. PDSA cycle 3 addresses physician and staff education about the Navigator program. PDSA cycle 4 addresses patient communication. Lastly, PDSA cycle 5 tracks the discharge summary completion rate. The primary outcome measure will be the percentage of patients who attended their first outpatient appointment following discharge. Process measures will include the percent of appointments scheduled by the Navigator and percent of timely notification of discharge order to the Navigator. Balancing measures include staff/provider satisfaction and time constraints for the Navigator due to various responsibilities. Data analysis will be performed via run chart and statistical process control (SPC) charts. **Results:** PDSA cycles are ongoing, thus final results are pending. The first PDSA cycle addressed Navigator access to inpatient behavioral health units with strong improvement on likert scale surveys (strongly disagree to strongly agree). The second PDSA cycle addressed Navigator EMR access with similar improvement on likert scale surveys. The third PDSA cycle addresses inpatient psychiatrist and staff knowledge of the Navigator program and is currently in process, with preliminary data suggesting a lack of knowledge of the program and what it offers patients. Psychiatrists and staff have been receptive

to education regarding the program and its benefits thus far. **Conclusions:** By addressing barriers to effective and efficient Navigator connection and communication with patients, as well as providing education for physicians and staff about the BestConnections program, we hope to improve first appointment follow up rates after hospital discharge following an admission for suicidal ideation.

#### **No. 45**

##### **Improving Metabolic Monitoring in Patients Treated With Antipsychotics Using an Integrated EMR Alert**

*Poster Presenter: Luka Sogorovic, D.O.*

*Co-Authors: Julia Adams, M.D., Steven Paul Cuffe, M.D.*

#### **SUMMARY:**

**BACKGROUND:** The use of antipsychotic medication increases the risk of metabolic disturbances. The American Diabetes Association (ADA) and the American Psychiatric Association (APA) recommend baseline and periodic testing of BMI, waist circumference, HbA1C, fasting plasma glucose, and fasting lipid panel. At UF Health Jacksonville, this standard was not being met in both the inpatient and outpatient settings. Electronic Medical Records contain automatic alerts to prompt clinicians of important information. No such alert existed within EPIC (UF Health's EMR) to help clinicians meet the above recommended guidelines for metabolic monitoring in patients on antipsychotics. **OBJECTIVE:** The primary goal of our study was to improve the rates of metabolic monitoring amongst patients taking antipsychotic medication in both the inpatient and outpatient psychiatric settings. **METHODS:** A cohort discovery tool called i2b2 was used to access UF Health's Database of patient visits and demographics. All adult patients seen at UF Health Psychiatry Clinics (inpatient and outpatient) taking antipsychotic medication were selected for the data groups. Data was collected for 15 months prior to the implementation of the automated alert to determine how many patients taking antipsychotics had completed BMI assessment, HbA1c, and a lipid panel within the last year. With the help of a clinical informatics specialist, an integrated best practice advisory (BPA) EPIC alert was designed to "pop up"

any time an antipsychotic was ordered. The BPA alert was implemented and ran for 15 months after which the same process using i2b2 was used to collect post alert data. The pre-alert and post-alert groups were compared calculating the overall rates of patients who received the recommended annual labs. **RESULTS:** The inpatient metabolic monitoring rate increased by 210.5% and the outpatient metabolic monitoring rate increased by 6.13%.

**CONCLUSION:** The use of an integrated EMR alert demonstrated an increase in the rate of metabolic monitoring in both the inpatient and outpatient psychiatric settings. Future studies can examine how the pandemic affected rates of monitoring and data could be collected for time periods greater than 15 months. EMR alerts can be used more widely to help clinicians meet important practice guidelines and standards of care.

#### **No. 46**

##### **Increased Risk of T2DM in Appalachian Patients With Bipolar Disorder After Exposure to Antipsychotic Medications: A Cox Proportional Hazard Model**

*Poster Presenter: Muhammad Jafary*

*Lead Author: Tamara Murphy, M.D.*

*Co-Authors: Dewey Murphy, Wasila Madhoun*

#### **SUMMARY:**

Background Patients with bipolar disorder (BD) have a high rate of co-morbid type 2 diabetes (T2D), and strong evidence indicates that initiation of antipsychotics precedes the development of type 2 diabetes. However, several studies suggest that type 2 diabetes and bipolar disorder may share a common pathophysiological mechanism (Charles et al. 2016). However, a degree of uncertainty regarding etiology remains due to confounding variables not eliminated in these studies. In West Virginia, there is a high incidence of diabetes, and many studies have shown that type 2 diabetes and mood disorders may share a genetic link further influenced by environmental factors. High rates of obesity, lack of appropriate resources in the community, poor healthcare literacy, and geographically isolated populations may all play a role. Study Hypothesis Even when controlling for other factors, we propose that there will be a higher

risk of developing type 2 diabetes with exposure to an antipsychotic medication. **Methods** Using data from 2,860 patients with bipolar disorder over a ten-year period, we developed a Cox proportional hazard model to determine the increased risk in development of type 2 diabetes after exposure to antipsychotic medications. The study design takes into account other risk factors for diabetes, including family history, obesity, older age, gestational diabetes, and gender to isolate the risk attributable to the medication. In addition, because the data is from multiple clinical encounters over time, we will also be able to draw conclusions about the timeline to onset of diabetes after exposure to the medication. **Results** With regard to the risk of developing diabetes while taking an antipsychotic, there was a Cox proportional hazard ratio of 1.384 with a 95% confidence interval of 1.125-1.702. The value for p was 0.002. **Conclusion** After analyzing the data, we d

#### **No. 47**

##### **Indigenous Perspectives on Nonbinary and Genderqueer Identity**

*Poster Presenter: Thomas Vu Nguyen, M.S.*

*Co-Author: William Rumbaugh, M.D.*

##### **SUMMARY:**

Transgender is an umbrella term referring to individuals who identify with a gender differing from that normatively expected of their assigned sex. This classification further subdivides into binary—individuals who, for example, self-identify as a woman if they were male assigned at birth, or a man if they were female assigned at birth—or nonbinary and genderqueer (NBGQ), referring to individuals who have a gender identity that does not exclusively fall in the man/male or woman/female categories. There is evidence that NBGQ individuals face unique mental health challenges compared to binary transgender individuals; among them, higher rates of substance use, anxiety, and depression. This can partly be explained by stigma: The social process of labeling, stereotyping, and rejecting human difference as a form of human control. In modern American history, cultural schemas have reinforced and perpetuated a binary gender classification of male and female,

derived from a combination of biology (e.g., chromosomes, genitalia), character traits, and behavior. Under this gender binary, having a gender identity that aligns with one's sex characteristics is seen as normative, while transgender people are seen as non-normative, and NBGQ individuals are seen as the "other". This "othering" is rooted in unfamiliarity—a fear of the unknown. For many Americans, nonbinary identity is a foreign concept, which perpetuates discrimination in our society. But outside of the modern Western lens on gender, dozens of indigenous cultures all over the world have recognized and accepted nonbinary identity for centuries: Fa'afafines and Fa'afatamas in Samoa, Two-spirit in native North American Navajo culture, Muxes in Juchitán de Zaragoza, Mexico, Sekrata in Madagascar, Hijras in South Asia, Metis in Nepal, and others. Understanding how these indigenous communities conceptualize gender—the framework in which nonbinary identities or expressions makes sense; how they are rooted in a people's values, culture, and language—can help broaden American healthcare providers' understanding of gender. This cultural humility represents one avenue to providing more affirming and supportive care to our transgender and NBGQ patients.

#### **No. 48**

##### **IV Ketamine Therapy in the Setting of Treatment Refractory Depression With Concurrent PTSD**

*Poster Presenter: Clinton Deering*

*Co-Authors: David Draney, D.O., Suporn Sukpraprut-Braaten*

##### **SUMMARY:**

**Introduction:** Treatment-resistant depression symptoms are particularly troublesome, often leaving patients and clinicians looking for new effective treatments. Depressive symptoms have been shown to reduce dramatically with ketamine treatment<sup>1</sup>. In the last decade, studies have shown that ketamine has strong antidepressant effects in patients with mood and anxiety disorders resistant to treatment<sup>2</sup>. Ketamine is dissociative anesthetic comprised of ( R)-ketamine and ( S)-ketamine, making it a racemic mixture which exhibits its effect by acting antagonistically on the NMDA receptor<sup>3</sup>. Intranasal and via intravenous infusion are the

primary modes of administration studied for this medication and its antidepressant and antisuicidal effects, with the former being heralded for its enhanced bioavailability<sup>3</sup>. Posttraumatic Stress Disorder (PTSD) has few effective treatments for this frequently disabling condition<sup>4</sup>. A recent study showed reduction in PTSD symptoms after a single dose IV ketamine infusion<sup>4</sup>. **Case Description:** The patient is a 42-year-old Caucasian female with a 17-year history of depression and multiple suicide attempts. Her symptoms of PTSD have been present for over a decade. Both depression and PTSD have become refractory to treatment with constant suicide ideation for the past year. Her insurance would not pay for ketamine treatment and being desperate for improvement; she elected to pay for out-of-pocket. The patient initially received six IV infusions, three per week, of 0.5 mgs/kg of ketamine over 40 minutes during a two-week period. Patient care was continued, and subsequent treatments were administered in the following months upon conclusion of the initial observation period. She initially achieved significant improvement in symptoms of PTSD and depression with very few side effects. Her PHQ-9 scores had improved. Her symptoms were reduced for approximately 10 weeks post-IV infusion before regression to similar previous PHQ-9 scores, however she remained free of suicidal ideations at three months. Depression without suicidal ideation had never been accomplished for this patient prior to IV ketamine treatment.

**Discussion:** This case is unique as the patient had both treatment-refractory of depression and PTSD with constant suicidal ideations before multiple IV ketamine treatments. Most ketamine studies have been limited in small sample size and lack long-term data on efficacy<sup>2</sup>. This case is distinctive compared to most of the published articles because she remained on her previous treatment for PTSD and treatment-refractory depression before, during, and after IV ketamine treatment. This case helps give insight into the effects and possibilities of using IV ketamine in treating refractory depression patients with PTSD and the efficacy of longer-term and repeated administration of IV ketamine. While this is a single-patient case report, it provides information before, during, and after the ketamine treatment that continues to be updated.

**No. 49**  
**WITHDRAWN**

**No. 50**  
**Klüver-Bucy Syndrome Secondary to Herpes Encephalitis: A Case Report**

*Poster Presenter: Chika Nwachukwu, B.S.*

*Co-Authors: Gowri Gouda, D.O., Enrique Murillo, M.D., Silvina Beatriz Tonarelli, M.D.*

**SUMMARY:**

**Background** Klüver-Bucy syndrome (KBS) is a rare neuropsychiatric disorder caused by multiple etiologies. The diagnosis of KBS is made with the presence of at least three of the following symptoms: visual agnosia, placidity, hyperorality, hypersexuality, bulimia, placidity, and amnesia. The first reported case of KBS in humans was in 1955 after a patient underwent a bilateral temporal lobectomy for epilepsy surgery. There have been few reported cases of KBS secondary to herpes encephalitis. **Case Report** Ms. E is a 59-year-old Hispanic female with no known previous psychiatric history who was evaluated by the psychiatric consult service due to increase disinhibition and agitation. Prior to psychiatric evaluation, patient underwent to extensive work up to rule out other causes such as paraneoplastic syndrome and anti-NMDA receptor encephalitis. CSF findings were positive for HSV-1 IgG. Comprehensive immunological panel was negative for any other comorbidities. During the psychiatric evaluation, patient stated having auditory hallucinations, increased anxiety, restlessness, and sleeplessness. Patient exhibited verbal aggression (she cursed at hospital personnel), made sexual remarks to the evaluators, tried to place various non-edibles objects in her mouth, and had remarkable gaps in both short and long-term memory. Seven months prior, patient had an admission to a different hospital and was diagnosed and treated for herpes encephalitis. Her current MRI of the brain showed T2 hypersensitivity and cystic encephalomalacia and gliosis involving bilateral anterior and medial temporal lobes. Due to the current presentation of hypersexuality, hyperorality, and amnesia and the previous history, patient was diagnosed with KBS secondary to herpes encephalitis. **Discussion** KBS is thought to occur due

to the disruptions in the temporal regions of limbic networks that connect with multiple cortical and subcortical circuits to regulate emotional behavior and affect. The amygdala, uncus, hippocampus, orbitofrontal and cingulate gyri, and insular cortex play important roles in the pathogenesis of the syndrome. Herpes encephalitis is one cause of KBS, as the virus can cause damage to the bilateral temporal lobes. Delayed access of care affected the patient's overall care. Patient worked as a caretaker but stopped after her diagnosis of herpes encephalitis. Financial costs contributed to why there was a delay in seeking medical assistance when the patient exhibited aggression, restlessness, and insomnia at home for more than two weeks.

**Conclusion** This case serves to illustrate the neuropsychiatric presentation of KBS secondary to herpes encephalitis. More research is needed to fully understand the mechanisms of how herpes encephalitis can cause KBS. Challenges in patients' care can include delayed access in care and socioeconomic status.

#### **No. 51**

##### **Kratom Use Disorder: An Understudied Yet Crucial Upcoming Differential**

*Poster Presenter: Myra Dhingra*

*Lead Author: Maxsaya Baez Nunez*

*Co-Authors: Annika Dhingra, Rachel Kossack, Monica Dhingra*

##### **SUMMARY:**

We relay the case of a middle-aged male with a past psychiatric history of bipolar disorder and substance use disorder who was brought into the emergency department by law enforcement due to worsening aggressive, agitated, and bizarre behavior in the context of substance use. He presented with psychomotor agitation, restlessness, pressured, circumstantial, and perseverative speech pattern, and reported decreased sleep for the past week. The patient endorsed having increased his kratom consumption approximately five-fold throughout the past week, which he had begun with aims of targeting his anxiety and preventing opioid cravings months ago in the form of oral capsules. His urine toxicology was positive for benzodiazepines and cannabis, last consumption of both reported over

one week prior. Following assessment in the emergency department, the patient was admitted to the inpatient unit and discharged after successful stabilization and medication management of his manic episode. Kratom, is a non-federally regulated herbal extract predominantly sold in loose or encapsulated powder forms, accessible over the counter and the internet. Its main active ingredient, Myraginine (7-hydroxymitragynine), was found to be 10-20 times more potent to the mu-opioid receptor than morphine in animal studies. It has been shown to interact with alpha-2 adrenergic receptors, D2 dopamine receptors and the serotonin receptors 5-HT2c and 5-HT7, which contribute to the drug's mood altering and stimulant-like effects. Its consumption has been popularized as a naturopathic alternative for mood, anxiety, and attention deficit symptoms, along with its recreational use. In Asia, where the medicinal plant *Mitragyna speciosa* originates, traditional medicine practitioners regard it a substitute for opium, as it is believed to act on opioid receptors in a dose-dependent manner, providing stimulant effects at low doses, analgesia, and euphoria at high doses, and sedative at very high doses. Given the reported association between kratom consumption and its mood- altering and stimulant-like effects when ingested orally, we considered the role of kratom and its metabolites in this patient's presentation of acute mania. In this poster we discuss the importance of raising awareness of the growing availability and abuse of kratom, its potential for addiction, and the kratom withdrawal syndrome. The authors aim to highlight the need for further research on the potential effects of kratom, and its use as a crucial consideration during assessment. Furthermore, the authors aim to stress how such a popularized and broadly marketed, yet unsafe and unregulated product could be detrimental to vulnerable populations who may seek it as an alternative to treating mental health conditions due to lack of access to healthcare.

#### **No. 52**

##### **L-Methylfolate Supplementation Improves Treatment Response in Patients With MTHFR Polymorphism in MDD and TRD**

*Poster Presenter: John Cook*



**SUMMARY:**

**Objectives:** Major depressive disorder is a debilitating disease affecting nearly 280 million people worldwide (~3.8% of the population). While there are numerous treatments available for the disease, approximately 30 – 40% of patients are unresponsive to treatment and deemed treatment resistant. Over the past two decades, research has shown that defects in folate metabolism can contribute to the etiopathology of depression and to treatment resistance. Particularly, polymorphisms in methylenetetrahydrofolate reductase (MTHFR), a critical enzyme in folate activation, leads to decreased L-methylfolate. MTHFR genetic polymorphism has therefore been linked to depression and treatment resistance. **Methods:** Patients with MDD and TRD were categorized based on pharmacogenomic profiles obtained with GeneSight testing for MTHFR polymorphisms. Those patients identified as carriers of a polymorphisms were deemed as candidates who might benefit from L-methylfolate supplementation and were given 5 – 15 mg of folate daily in addition to their traditional antidepressant treatment. Patients were then reassessed at 8-12 weeks utilizing psychiatric evaluation to assess treatment response. **Results:** In the treatment responsive group, there was a 27.27% remission of symptoms with L-methylfolate administration among patients with the MTHFR polymorphism. In comparison, those with normal MTHFR function had a 16.67% remission. Additionally in the treatment resistant group there was a 15.78% remission with L-methylfolate supplementation among patients with MTHFR downregulation. This is compared to 11.86% remission amongst those with normal MTHFR function. **Discussion:** The utilization of pharmacogenomics in depression has been growing over the past decade. L-methylfolate is an affordable, non-prescription, and safe supplement that can be easily purchased over the counter. Nevertheless, select patients (e.g., elderly, those with food instability) may suffer from folate deficiency particularly those with limited activity of MTHFR. This study showed that both MDD and TRD patients with a genomic variant in the MTHFR gene may benefit from L-methylfolate supplementation in comparison to those with normal MTHFR function. This study may help guide physicians into practical

uses of GeneSight testing in their patients with depression and treatment resistance particularly amongst patients at increased risk for folate deficiency.

**No. 53****Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, and Inclusion (LGBTQIA and I): In the Military and Beyond**

*Poster Presenter: Alyssa L. Arena, M.D.*

**SUMMARY:**

TM is a 35-year-old Caucasian married male with no formal past psychiatric history who reported to the psychotherapy clinic to explore past traumas, with the suspicion that they were affecting his chronic physical health problems, particularly pain, fatigue, and memory problems, with negative medical workups. The patient was diagnosed with Post-Traumatic Stress Disorder secondary to his long history of trauma in a conservative Christian church and neglect and abuse in childhood. Over the course of therapy, TM expressed strong anger against the church due to their powerful enforcement of masculine gender roles. Although he did not identify as gender queer, he stated that he was “not quite male.” He was raised not only in an orthodox church, but also in a military family, where he was never comfortable in his gender role. Here, we explore how to improve this in the mid-21<sup>st</sup> century, partially by looking at how our international colleagues have done so, quite successfully in many cases. This clinical case exemplifies the impact that institutional policies can have on the mental health of the individual. The stigmatization against gender diversity was worsened when America’s previous President banned Transgender servicemembers from the military. Even before this, the advent of Don’t Ask, Don’t Tell (DADT) negatively impacted public perception of LGBTQIA individuals. Fifty one percent of the public favored homosexual service in 1977, but this slipped to as low as 37% in 1993 during the height of DADT. By 2003, support increased to 80%, until the policy was finally repealed in 2011 [2]. In this poster, we discuss the challenges against and potential directions toward inclusion of LGBTQIA service-members, including strategies for repairing damage that has been done.

We will look to our colleagues overseas and review the data available on strategic approaches to ensuring LGBTQIA wellness. For example, the Swedish military markets to potential queer recruits and allows soldiers to attend pride in uniform. Israel has allowed LGBTQIA service since it's foundation in 1948, albeit with some restrictions until those were repealed in the 1990s. Attendees will be able to apply knowledge to clinical practice within various institutions, including higher education, primary schools, churches, rehabilitation programs, and psychiatric facilities.

#### No. 54

##### **Long Term Opiate Prescription (LTOP): A Survey and Retrospective Chart Review on the Efficacy of Long Term Prescription of Methadone at an Inner City**

*Poster Presenter: Azadeh Zamiri, M.D.*

*Co-Authors: Arun Prasad, M.D., Rachel Schoolcraft*

#### **SUMMARY:**

**Background:** Coronavirus Disease-19 (COVID-19) has disrupted outpatient care for patients throughout the milieu of medical care. One of the populations grossly affected by the pandemic is the OTP where most patients visit daily to receive their Methadone dosing. Some of these patients have to travel for long distances and fall in the highest risk category for the COVID-19 infection. Efforts are needed to mitigate this risk to such patients. A significant proportion of patients at our OTP have been permitted to have take-home medications. Take-home prescriptions of Methadone are permitted as per federal guidelines. However, these criteria may be considered to be restrictive and skew the risk-benefit ratio to patients being prescribed Methadone. We hypothesize that Long Term Opiate Prescriptions have had positive impacts in terms of satisfaction and patient safety for patients visiting our OTP. The goal of the study is to prepare protocols and study patient satisfaction for Long Term Methadone prescriptions at inner-city Opioid Treatment Programs (OTP). **Methods:** This is a retrospective case-control study on patients, all adult people above 18 years old, who are under treatment in the Opioid Treatment Program. The electronic medical records of subjects will be reviewed in the hospital medical records system. A

survey will also be carried out amongst patients in the OTP to assess patient satisfaction in the treatment they receive for Opioid Use during the COVID-19 Pandemic. The time frame for the study is November 2021 to Feb 2022. Patients will be consented by the residents on-site and then will be provided with the questionnaire by the other residents the next time of coming to the OTP. The questionnaire will be provided to the patient and a resident will be present at the time of completing the form. For identifying the patients, we will assign each patient "Study ID" and prepare a separate secure file (Study Key), where Study ID is assigned MRN. No identifying data would be gathered to eliminate any risk of a confidentiality breach. All data would be encrypted and saved in password-protected digital files. The data will be analyzed using Statistical software to identify the level of patient satisfaction and patient characteristics that enable long-term opioid prescriptions. **Results:** Research is ongoing. The results will be ready by the time of the presentation. **Discussion** COVID has impacted multiple facets of mental health services, including harm reduction via Methadone treatment. Patients anecdotally have appreciated the relaxed guidelines used for take-home Methadone as it has ameliorated their fears of travel through the pandemic and thus diminishing their chances of contracting the infection or relapsing after a sustained period of abstinence and maybe facing lethal consequences. Further research into patient characteristics who have shown the greatest benefit from long-term prescription may help create guidelines for the future.

#### No. 55

##### **Management of Refractory Depression and Reversal of ECT-Induced Cognitive Impairment Using Methylphenidate**

*Poster Presenter: Dana L. Sharma*

#### **SUMMARY:**

The patient, a 53-year-old Caucasian female with a past medical history pertinent for traumatic brain injury and a past psychiatric history of major depressive disorder with multiple suicide attempts and posttraumatic stress disorder, presents to St. Mary's Medical Center for management of acute

anxiety and depression. Home medications were restarted upon admission with minimal improvement in her symptoms. Two weeks into her hospital course, treatment with electroconvulsive shock therapy was begun for her refractory depression. Initially, signs of confusion, amnesia, and disorientation were present but not substantial enough to discontinue the therapy. In total, the patient received 6 cycles of electroconvulsive therapy over a 2-week period on a MWF schedule. After the sixth treatment, increasing severity of cognitive side effects were apparent. A thorough medical workup deemed the source of her severe cognitive impairment to be secondary to electroconvulsive therapy, and treatment was discontinued. A week later the patient continued to struggle with confusion and depression, so daily methylphenidate was added to her medication regimen. Five days later, the patient exhibited improvement in her symptoms and was discharged home. A subsequent literature review examined the connections between neuronal changes post-traumatic brain injury, electroconvulsive therapy induced side effects, and major depressive disorder. We found that by augmenting impaired neuronal catecholamine transport post-traumatic brain injury, methylphenidate has been shown to improve both mood and cognition. In this poster, we discuss these findings and their contribution to the current body of literature

#### **No. 56**

#### **Medroxyprogesterone for Refractory Agitation in TBI and Parkinson's Disease**

*Poster Presenter: Erawadi Singh, D.O.*

#### **SUMMARY:**

Agitation can often prove to be a treatment challenge. Medroxyprogesterone may be considered when limited options remain in cases where downregulation of testosterone as an activating hormone may be of use. As testosterone activates the amygdala, it enhances its emotional activity and its resistance to prefrontal controls involving restraint (1). In cases of dopamine dysregulation in Parkinson's disease, antipsychotics can be of minimal benefit due to causing symptoms to worsen or because medications that are directly treating

Parkinson's may be unable to be changed. In the setting of post-TBI agitation, high potency antipsychotics may worsen cognitive and motor recovery so there may be a limited battery of medications to provide ameliorating effect (2). A 50-year-old man presented during prolonged hospitalization after a ground level fall due to alcohol withdrawal resulting in subarachnoid hemorrhage/severe traumatic brain injury and subsequent non-convulsive status epilepticus. Throughout hospitalization, control of seizures proved difficult and the patient underwent trials of Leviteracetam, Phenytoin, Clobazam and was ultimately maintained on Valproic acid 250 mg BID (weaned due to hyperammonemia and thrombocytopenia), Lacosamide 200 mg/300 mg, Lamotrigine 200 mg/100 mg, Clobazam 5 mg nightly. Psychiatric course of treatment included adequate trials of Quetiapine, Olanzapine, Buspirone, Melatonin, Valproic Acid, Trazodone, and varying levels of benzodiazepines. Restraints, posy bed, and behavioral management were utilized as well. Despite this, patient continued to have abrupt, unexpected agitation. Ultimately, patient's quality of life and failure to return to prior baseline were considered, and he was started on Medroxyprogesterone injections at 150 mg weekly with plan to titrate to effect with max dose of 500 mg IM. Patient responded favorably at 300 mg with full benefit, allowing for removal of restraints and discontinuation of posy bed. Similarly, a 77-year-old man with a history of Parkinson's disease presented from his memory care unit for evaluation of physical and sexual aggression. Due to severity of his Parkinson's, Neurology was reluctant to make changes to Carbidopa-Levodopa 25-100 mg four times daily due to the overall motor benefit he experienced. He had failed adequate doses of Quetiapine and Olanzapine and continued to have episodes of agitation, impulsivity, and sexual inappropriateness (3). As in the prior case, he was started on medroxyprogesterone IM 150 mg weekly and found benefit at 300 mg weekly, which allowed for discharge to memory care unit. While dopamine and D2-like receptor families have been associated with impulsive personality traits, these cases illustrate the potential for Medroxyprogesterone to target an alternative mechanism when agitation

appears refractory to treatment, and changes to dopamine may be unable to be made.

**No. 57**

**Mental Health Disparities Influenced by the COVID-19 Pandemic in the San Fernando Valley: A QI Assessment**

*Poster Presenter: Manjit K. Bhandal, M.D.*

*Co-Authors: Tinh Luong, M.D., Ph.D., Adrienne L. Grzenda, M.D., Ph.D., M.S.*

**SUMMARY:**

Introduction: The COVID19 pandemic has highlighted social, medical and mental health disparities across the globe. Utilization of the Olive View Mental Health Urgent Care (UCC), which serves a wide underserved demographic in LA county, can reflect a local populations' mental health needs, and how clients respond to crisis and what helps them cope. This is the first known review of the prevalence of certain diagnoses, conditions, and the demographic of clients that access the UCC within the San Fernando Valley during the pre, peri and post acute stages of the pandemic. Through this study, we can identify disparities in mental health, areas of improvement to assist populations that may benefit from more outreach, as well as ongoing trends in mental health needs during the subacute stages of the pandemic. Methods: De-identified data were supplied by the Los Angeles County Department of Mental Health for the N=2531 unique patients treated at the UCLA-Olive View Medical Center Urgent Care from February-May 2019 and February-May 2020. Descriptive statistics were reported as frequency and percentage to characterize and compare the demographic profile of the patients treated in 2019 and 2020. Differences in categorical variable distribution were evaluated by Chi-square or Fisher's exact test. Differences in continuous variable distribution were determined by Wilcoxon rank sum test. Goodness of fit and Levene's test were employed to ensure visit counts followed a Poisson distribution and did not violate variance homogeneity. The association between pandemic exposure and mental health utilization were investigated by a multivariable mixed-effects Poisson regression model. The model was adjusted for age, gender, race, and month of service. Robust error

variance was used to avoid overestimation of association. Results were reported as incidence rate ratios (IRRs) with 95% confidence intervals (CIs). All statistical analyses were two-sided, and a p-value  $< 0.05$  was considered statistically significant. Results: Study results will be available in our poster. Conclusion: The results from this data collection will provide the necessary framework to better identify patient populations who are at higher risk of mental health decompensation, and help establish guidelines for improved mental health interventions focused on these groups. An increase in demand for mental health services has already been noted anecdotally in other papers; our preliminary findings show an overall consistent number of visits between February through May in 2019 and 2020; however, we aim to identify subpopulations that were disproportionately affected by the pandemic. This data can be extrapolated to better inform mental health needs of underserved populations on a national level.

**No. 58**

**Neuropsychiatric Manifestation and Cognitive Decline After COVID-19 Infection in an Older Adult**

*Poster Presenter: Kie Fujii*

*Co-Author: Adriana Phan*

**SUMMARY:**

Ms. O is a 72-year-old Spanish-speaking female with no pertinent psychiatric or medical history who presented to the emergency department for an evaluation of muscle weakness, fatigue, lethargy, abdominal pain, and loss of appetite for 10 days. The patient lives with her son, who was diagnosed with COVID-19 infection a few weeks prior. Her COVID-19 test came back positive and she was initially admitted under ICU due to severe sepsis with acute kidney injury, lactic acidosis, pneumonia, and hypernatremia, but was downgraded to medicine. Psychiatry was consulted 10 days after admission to rule out depression. Patient remained poorly interactive during the encounter and was unable to recall the reason for hospitalization or be able to recall her son's name. Prior to contracting COVID-19 infection, she was able to perform activities of daily living independently. However, her son had noticed an increase in forgetfulness that started 3 months

ago and one episode where she became confused at a grocery store. Additionally, the patient has a family history of Alzheimer's and Parkinson's disease. Ultimately, the patient was started on fluoxetine 20mg/day and mirtazapine 7.5mg at bedtime, which she intermittently refused during admission. After she was discharged home, she returned to the ED after no improvement. In this poster, we will discuss how COVID-19 infection in an older adult may not only lead to cognitive impairment but behavioral symptoms as well. Furthermore, this poster will highlight how COVID-19 in mature adults can worsen their neurocognitive disorder and present with severe neuropsychiatric manifestations.

**No. 59**  
**Neurosyphilis in Disguise: Mood Symptoms Not Responsive to Medication**

*Poster Presenter: Peter H. Lee, D.O.*

*Co-Author: Alexander Legenbauer, D.O.*

**SUMMARY:**

Neurosyphilis is an infection of the central nervous system caused by *Treponema pallidum*. What was once a more prevalent disease has now been on the decline due to the readily available antibiotic treatment with estimates in the US being as low as 0.84% in the US from 2009-2015. Although neurosyphilis is commonly known for its neurologic symptoms including stroke, myelopathy, ocular findings, and seizures, it is possible it may present primarily with psychiatric symptoms. In this case of a 67 year old female, patient presented with an extensive psychiatric history including a single psychotic episode followed by a middle cerebral artery stroke a decade later without any residual effects followed by subsequent worsening depression and anxiety without significant response to psychotropic medications. Given the patient's age, presentation, and mood symptoms further workup was initiated to rule out infectious cause. Patient was identified to have positive syphilis results based on serum and lumbar puncture findings. Pt was continued on psychotropic medications and started on IV penicillin which led to significant improvements in mood and anxiety. This case highlights the significance for physicians and other providers to consider medical etiologies in

patients that present with primary mood symptoms regardless of neurologic deficits being present or absent. Discussed during this presentation will include potential symptoms present in the different stages of syphilis, up-to-date guidelines on syphilis workup, and treatment modalities.

**No. 60**  
**New Onset of Depression, Psychosis and Cognitive Impairment After COVID-19 Infection: The Need for Longer Treatment**

*Poster Presenter: Tanya Peguero Estevez, M.D.*

*Co-Authors: Taner Aydin, M.D., Amy Swift, M.D.*

**SUMMARY:**

Ms. G is a 53-year-old woman with no past psychiatric history and past medical history of adrenal insufficiency, HIV on HAART and past COVID-19 infection in December 2020, family history significant for a father with early-onset dementia, who initially presented to the medical emergency department for cognitive impairment and altered mental status. The patient was medically cleared and transferred to the psychiatric emergency room for depressed mood with intermittent suicidal ideation and cognitive impairment. The patient was admitted to the inpatient unit. She had ongoing depressive symptoms for 10 months, starting after the death of her husband. Her cognitive impairment had been progressive since January 2021, worsening more rapidly over the two months prior to admission, with the two weeks prior to admission highlighted by worsening insomnia and the start of paranoid delusions. Patients had primarily complained of symptoms of fatigue, headache, confusion, poor concentration, and increased anxiety after COVID-19 infection. MOCA test results on the inpatient unit were of 20-21/30. MRI brain was obtained showing no acute abnormalities. Treatment consisted of sertraline for depression and risperidone for psychosis. In the outpatient clinic, a repeat MOCA was 29/30 during her intake appointment with a noted lack of paranoia and remission of depressive symptoms. Two weeks later, she was noted to have recurrent symptoms of depression and psychosis after self-discontinuing risperidone; aripiprazole was then started instead. In this poster, we discuss a case of a patient with no prior psychiatric history

developing worsening symptoms of depression and psychosis after COVID-19 infection. We consider the array of possible etiologies for acute cognitive impairment, depressive symptoms, and psychosis and integrate a previous COVID-19 infection as a potential new etiology. It is unknown whether psychiatric symptoms arising after coronavirus infection are reversible or permanent, but current evidence points to a likely prolonged course of months to years after infection. The severity of COVID-19 infection and medical comorbidities may serve as prognostic value for illness. We discuss our pharmacological approaches to the treatment of psychiatric symptoms to contribute to the growing body of literature as we learn more about the psychiatric effects and treatment of the post-COVID-19 syndrome.

#### **No. 61**

##### **NMS With First Dose of Antipsychotic**

*Poster Presenter: Maeve Greenberg, M.D.*

##### **SUMMARY:**

X was a 25y M with PPH of major depressive disorder and generalized anxiety, without history of psychosis, antipsychotic use or psychiatric hospitalizations, who presented to the emergency room for 48 hours of “odd behavior” at home, including running sinks and tubs until a bathroom flooded, mutism, and pacing the house naked. In the ED, X received versed 4mg IV, and haldol 5mg IM and shortly after, thorazine 50mg IM for aggression. Utox showed positive cannabinoids and benzodiazepines. Psychiatry was consulted for psychosis, and after evaluation, recommended neurologic evaluation for underlying organic etiology given first episode and acute onset of psychotic symptoms. The patient was in the ED overnight, and on re-evaluation the following day, was found to be diffusely rigid, febrile, with altered mental status and unable to participate in evaluation. CK was drawn and found to be 5,856 (up from 64 on presentation) and WBC count 15.5 (up from 11.6 on presentation). X was started on dantrolene and admitted to ICU for management of presumed NMS and to also rule out other potentially life threatening conditions, such as infectious meningitis. In this poster, we will review NMS, risk factors for its development and highlight

the possibility, although uncommon, of it’s occurrence even after the first dose of an antipsychotic.

#### **No. 62**

##### **Onset of Benzodiazepine Withdrawal Catatonia During Electroconvulsive Therapy for Treatment-Resistant Depression**

*Poster Presenter: Jeffrey Lee*

*Co-Authors: Chanel Zhan, Alexandria Ayala, Jacob Feigal, Heather Vestal*

##### **SUMMARY:**

Ms. G is a 60-year-old woman with a past psychiatric history of treatment-resistant major depressive disorder and generalized anxiety disorder who was admitted to the inpatient psychiatry unit after a suicide attempt with an overdose of her home psychiatric medications. While hospitalized, the patient received electroconvulsive therapy (ECT) three times weekly (alternating right unilateral and left unilateral treatments) for her treatment-resistant depression. ECT treatments began on hospital day 7. Prior to admission, she had been taking 30 mg of diazepam daily for greater than ten years for anxiety, with prior unsuccessful attempts to taper due to intolerable increases in anxiety. Given that the family reported noticing gait imbalance and cognitive effects prior to admission, one goal this admission was to taper her diazepam while inpatient. The taper was initiated prior to the start of ECT: by hospital day 4, her diazepam had been reduced to 33% of her daily home dose, to 10 mg per day. By hospital day 13, her diazepam had been further reduced to 2 mg daily. Although she experienced significant mood improvement with ECT, she began to exhibit symptoms of catatonia on day 15 of admission with a Bush Francis Catatonia Rating Scale score of 9. Her catatonia symptoms improved in response to a lorazepam challenge of 2 mg, and the catatonia symptoms continued to improve on lorazepam 2 mg three times a day while continuing to receive ECT. We discuss this patient’s unique presentation of benzodiazepine withdrawal catatonia despite ongoing ECT. Although ECT is traditionally known to be a highly effective treatment for general catatonia (Mahgoub, Makar, & Virani, 2021), the efficacy of ECT in the management

of benzodiazepine withdrawal catatonia has not been well studied (Lander, Bastiampillai, & Sareen, 2018; Lebin & Cerimele, 2017). We review the current literature behind benzodiazepine withdrawal catatonia, including proposed pathophysiological mechanisms and general treatment guidelines. Although this report features just one case, our hope is that this information will enable clinicians to consider catatonia on the differential whenever benzodiazepines are tapered—even in patients already receiving a course of ECT—particularly when there is a history of long-term benzodiazepine use.

#### **No. 63**

##### **Overcoming Barriers: Ketamine for Treatment-Resistant Depression and Suicidal Ideation in a Geriatric Patient Without Access to ECT**

*Poster Presenter: Toni Shalyn Carter, B.S.*

#### **SUMMARY:**

Major depressive disorder (MDD) is a common illness in the United States and has increased morbidity and mortality for those affected.<sup>1</sup> Elderly patients with MDD have increased rates of cognitive and physical decline as well as increased rates of suicide.<sup>2,3</sup> Elderly patients are treated with a combination of psychotherapy and pharmacological methods similar to the management of other adults with MDD, but may be more prone to side effect burden of medications.<sup>2,3</sup> Electroconvulsive Therapy (ECT) is an important treatment option for elderly patients with severe depression and suicidal ideation.<sup>7,8</sup> ECT has been shown to be an effective treatment option with few contraindications and the cognitive side effects tend to be mild and transient.<sup>7</sup> Despite continued evidence of efficacy, access to ECT in rural hospitals is limited and creates a barrier to care in patients that would otherwise qualify for ECT.<sup>9</sup> Ketamine is a dissociative anesthetic agent that can be used at sub-anesthetic doses to treat suicidality in patients with MDD as well as treatment refractory MDD.<sup>4</sup> The response from ketamine occurs rapidly, over the course of 1-3 days; multiple infusions are usually necessary to maintain the treatment benefits.<sup>4,5</sup> The adverse effects of ketamine include dissociative and psychotomimetic episodes that typically do not require discontinuation of treatment.<sup>4,5</sup> Our case

demonstrates the successful treatment of an advanced aged, 92 year-old, geriatric patient admitted to the inpatient geriatric behavioral health unit at a rural hospital with treatment resistant MDD and persistent suicidal ideation. The severity of her symptomatology was evidenced by her active suicidal intention with attempting suicide while on the unit. Her symptoms of MDD and suicidal ideation continued for a month despite aggressive medical and behavioral interventions, necessitating one-to-one care status while inpatient. ECT was not available at the treating hospital, and despite attempts to procure ECT treatment for this patient regionally, she was declined at all regional facilities, academic and private, including facilities in two neighboring states. For facilities with ECT availability, the patient was declined due to advanced age. A series of three Ketamine infusions were given to remarkable effect. Suicidal ideation and intent resolved after the second treatment. Significant improvement in MDD symptoms occurred. The treatments were tolerated without any adverse effects. Ketamine may offer another mode of treatment for elderly patients with suicidal ideation secondary to MDD. Like ECT, Ketamine has a low side effect burden and may be more easily accessible to patients in rural areas with a rapid onset of effects.

#### **No. 64**

##### **Parent-Child Dynamic of Trust and Resilience in Borderline Personality Disorder**

*Poster Presenter: Sahana Nazeer, B.S.*

*Co-Authors: Anita S. Kablinger, M.D., Brandon Ganjineh, B.S., Cara Spivey, M.S., B.S.*

#### **SUMMARY:**

**BACKGROUND:** Borderline personality disorder (BPD) reportedly affects 1-2% of the general population, but as high as 5.9% of the population could meet criteria for BPD<sup>20,22</sup>. BPD patients exhibit decreased interpersonal trust – a key factor of their profound relational impairments and the most common reason of suicide in this patient population<sup>3-11</sup>. Disturbances in parent-child relationships are a prominent risk factor for the fracture of interpersonal trust<sup>3,5,8,9</sup>. No study has quantitatively evaluated interpersonal trust between

BPD parents and their children<sup>4, 7, 11-19</sup>. An early maladaptive schema of mistrust – exacerbated by a lack of social support – contributes to the pathogenesis of BPD<sup>21</sup>, but the effect of parental BPD on children is not a focus of treatment<sup>9, 20</sup>. Moreover, BPD may serve as a prototype for disorders characterized by a lack of resilience, which is facilitated by trust<sup>19</sup>. This is also the first quantitative study examining the relationship between interpersonal trust and resilience in children of BPD parents. **OBJECTIVE:** To inform clinical therapeutic approaches for parents with BPD by contextualizing interpersonal skill development within the parent-child dyad, and therefore address social support for BPD parents. We hypothesize (1) mothers with BPD exhibit decreased trust in their adult children, (2) adult children of BPD mothers directly correlate their resilience and trust towards strangers, and (3) indirectly correlate trust towards their mothers. **METHODS:** Participants (n = 68) complete a demographic questionnaire, Zanarini Rating Scale for BPD (mothers diagnosed with BPD, n = 17) or McLean Screening Instrument for BPD (mothers without a diagnosis of BPD, n = 17, and all adult children, n = 34), Resilience Scale for Adults, and two 5-round economic games. All participants play the role of an ‘investor’ and interact with a ‘trustee’ through a computer program. They are ethically deceived that the ‘trustee’ is either a family member or a stranger, but the computer game is independently automated. Investors transfer any number of money units per round to the trustee, and every transfer triples the amount of money units. The trustee can honor the investor’s trust by sharing the profit evenly, share unevenly, or not at all. **RESULTS:** Following medical chart reviews of 1,098 females with BPD, 192 females seen across twenty-one Carilion Clinic psychiatrists are potentially eligible for the study. We are currently recruiting healthy mothers and their adult children via patient recruitment calls, flyer advertisements, and word-of-mouth, enrolling eligible participants and their respective family member, and conducting testing sessions. We anticipate to complete data collection by May 2022.

## No. 65

### Phase 2 of the Development of an Online Training Module to Prepare Clinical Skills Evaluation (CSE) Examiners in Psychiatry.

*Poster Presenter: Tolulope O. Odeunmi, M.D., M.P.H.*

*Co-Authors: Michael D. Jibson, M.D., Ph.D., Katharine J. Nelson, M.D., Jamie Odanga, Lora M. Wichser, M.D.*

#### **SUMMARY:**

Background: The American Board of Psychiatry and Neurology (ABPN) instated the clinical skills evaluation (CSE) for psychiatry trainees who started training in July 2005. While educational materials have been developed by the American Association of Directors of Psychiatric Training (AADPRT) to train evaluators and improve inter-rater reliability in rating resident’s performance on the CSE, there were significant barriers to completing it. These barriers were eliminated when Dr. Kaz Nelson and colleagues utilized support from an ABPN Research Grant to develop an online training module, which incorporated the training materials developed. This training module is currently housed on the AADPRT website. So far, this online training has demonstrated interrater reliability. Unfortunately, the videos in this module have privacy limitations because real patients were used who signed limited consent. This substantially limits the capacity to share this module and is a potential liability risk if links to this module were publicly shared in error. Therefore, we developed a new grant proposal we called phase 2 and obtained a research award from the ABPN to produce new videos without these limitations. This will increase the capacity to widely disseminate the module and remove associated liability risks. **Methods:** We will produce three new video vignettes using actors who will provide full consent to the right to use their images. Each vignette will emphasize the three major competencies of the CSE: 1) Physician-patient relationship 2) Interview conduct & mental status examination and 3) Case presentation. These videos will undergo a rigorous process to establish consensus ratings for the performance of the resident in the newly produced videos. We will then replace the original videos in the phase 1 training module and analyze data extracted from the



module. Participants will undergo a process of informed consent to allow their evaluation responses after each video to be used in a de-identified manner. Results: Data analysis will include the number of times the module is completed and the comparison of participants' ratings with the consensus ratings. An analysis of variance test will be conducted to detect differences for each video, in the order the videos were completed. We expect to see a higher degree of inter-rater reliability with the consensus scores with each subsequent video vignette. Discussion: We hypothesize that the results will provide insight into the effectiveness of the online training module and its ability to improve the standardization of CSEs. This will also provide more substantial proof into the reliability of this training and the ability to produce consistent responses. This project has been determined by the University of Minnesota Institutional Review Board as not human subjects research: STUDY00011847. This project is supported by an Educational Research Grant awarded by the American Board of Psychiatry and Neurology.

#### **No. 66**

##### **Potential Bias in Fitness Evaluations for Juveniles in Chicago**

*Poster Presenter: Fred Jones-Rosa*

*Co-Author: Cara Angelotta*

#### **SUMMARY:**

**Background:** Forensic evaluations have come under more scrutiny since 2006, when congress authorized "the National Academy of Sciences" to initiate a study on forensic science which determined that "imprecise or exaggerated expert testimony has sometimes contributed to the admission of erroneous or misleading evidence." They noted "a body of research is required to address sources of variability and potential bias." Juvenile competency (or fitness) evaluations, often completed by forensic psychiatrists, involve assessment of a minor for their ability to understand the nature and purpose of the proceedings against him/her and to assist in his/her defense. If a minor is found unfit, they can be sent for treatment, or assigned to restorative services meant to help them become fit. This can subsequently delay the progression of their trial and

extend the time they must interact with the legal system which may worsen overall outcomes. A recent meta-analysis found that competency opinions in forensic psychiatry showed 15-30% disagreement between pairs of evaluators assessing the same defendant. Confirmation bias has been suggested as a source of bias in these cases, with psychiatrists being more likely to agree with the opinion of the one who retained them (in this case being more likely to find the minor unfit/incompetent). A characteristic of the forensic report which has also been shown to be associated with bias is the length of the forensic report. One study found that "report length was positively correlated with number of sources and consideration of alternative hypotheses," suggesting less potential for biased conclusions. In the Juvenile Court System, shorter reports often result from limited collateral sources which can be associated with disrupted family stability. Factors such as "lack of opportunity, economic instability, and community resources" have been associated with decrease in collateral sources and subsequently decreased report length. Newer reports have advocated for contextualization of "forensic information" in a way to "minimize the harm created by a prejudicial history." This study aims to investigate the correlation between factors that demonstrate disrupted family stability such as DCSF involvement, homelessness of the minor, and living with non-biological parents, and the finding of unfitness in a fitness evaluation. **Study:** Using data collected by the Cook County Juvenile Court Clinic which has coded multiple forensic reports for competency evaluations this study aims to investigate the correlation between factors that demonstrate instability in the minor's home, such as DCSF involvement, homelessness of the minor, and living with non-biological parents and the potential for confirmation bias of the Juvenile's unfitness. We hypothesize that a minor will be more likely to be found unfit when their competency evaluation includes a shorter report length which will in turn correlate with social/household instability.

#### **No. 67**

##### **Pre-Work Out Induced Psychosis: Tik Tok Trend During the COVID-19 Pandemic**

*Poster Presenter: Amy Gallop, M.D.*

Co-Authors: Bridget McCoy, M.D., Charlotte Marx, Pracheta Bhagat

**SUMMARY:**

Mr. W is an 18 year old man with no prior psychiatric history who was admitted to our inpatient psychiatry unit for acute psychosis following one week of increasing paranoia and violence towards his family. He had recently graduated high school during the COVID-19 pandemic and was working as a car detailer while living with his parents. He had no prior contact with psychiatry or symptoms suggestive of a psychotic illness and no known family history of affective or psychotic disorders. His urine drug screen was positive for marijuana which he used weekly. Since spring, he had been weight lifting and “dry-scooping” pre-workout daily. Mr. W had been using a pre-workout supplement which contained over 700 mg caffeine and multiple other compounds that have been implicated in mental health changes. During the course of the hospitalization, based on history, and relatively rapid resolution of symptoms, it was thought that his “dry-scooping” routine may have been causative or contributed to his psychosis. “Dry scooping” is a popular trend on Tik Tok, where a person ingests the pre-workout without water. Pre-workout is a supplement that is used to enhance athletic performance and contains various compounds including caffeine, branch chain amino acids and theobromine. There have been reports of cardiac events triggered by dry-scooping pre-workout but no reports of psychosis or mental health changes. This poster aims to examine the influence of Tik Tok and other social media outlets on adolescent mental health and encourages providers to screen for disordered eating and exercise patterns influenced by these outlets. We will discuss trends in supplement use and dissemination of mental health information through social media outlets. Social media engagement is a common form of communication among adolescence, especially during the COVID-19 pandemic, so providers must remain up to date on both positive and negative implications of these sites. From this poster, we hope that mental health providers will consider social media trends in the adolescent population when dealing with new-onset psychosis.

No. 68

**Prescription Opioid Overdose-Related Hospitalizations and Mortality Risk Factor: Inputs From Cross-National Study**

Poster Presenter: Albulena Sejdiu

Co-Authors: Kristal Nikita Pereira, M.B.B.S., Victoria Ayala, M.D., Pradipta Majumder, M.D.

**SUMMARY:**

**Objectives:** The main purpose of this study was to explore the demographic trend of prescription opioid overdose (POD)-related hospitalizations and the associated in-hospital mortality risk caused by comorbid substance use disorders (SUD) and acute medical complications. **Methods:** We conducted a cross-sectional study using the nationwide inpatient sample (NIS) and included 184,711 hospitalized patients (age: 6-75 years) with a primary diagnosis of POD. We evaluated the demographic trend in hospitalized patients with POD using descriptive statistics. A binomial logistic regression model was used to evaluate the odds ratio (OR) of association between in-hospital mortality and comorbidities in hospitalized patients managed for POD. **Results:** A higher proportion of hospitalized patients with POD were elders (age: 51-75 years, 48.5%), Caucasians (81.5%) and females (54.1%), and from lower household income quartet below 50<sup>th</sup> percentile (60.4%). The in-hospital mortality in POD-related hospitalizations was 2.2%. The most prevalent SUD seen in these patients were alcohol (15.7%), cannabis (5.7%), and stimulants (3%); and they were not associated with increasing the mortality risk. The significant risk factor associated with increased mortality risk in hospitalized patients with POD were cardiac arrest (OR 103.4; 95%CI 95.0–112.6), shock (OR 15.4; 95%CI 14.2–16.6), coma (OR 13.4; 95%CI 12.5–14.4), and respiratory failure (OR 12.051; 95%CI 10.9–13.2). **Discussion and Conclusion:** Prescription opioid users commonly abuse other substances like alcohol and cannabis [1]. Opioids bind to mu and delta receptors leading to respiratory depression and adverse cardiovascular outcomes which increases the mortality risk seen in our study [2]. Prescribing behaviors may contribute to the risk of mortality associated with POD. So, the Center for Substance Abuse and Mental Health Services has implemented “the prescription behavior surveillance system” to monitor and prevent opioid

abuse/misuse [3]. We need to increase the psychiatric care services to improve access to treatment and recovery services and public health surveillance to counteract the opioid overdose epidemic

#### **No. 69**

##### **Prevalence and Outcomes of the Use of Telemedicine for Psychiatry Patients in the Outpatient Setting**

*Poster Presenter: Amberly Ray*

*Lead Author: Maria Ruiza Yee, M.D.*

#### **SUMMARY:**

Although Telemedicine has been used in the field of Psychiatry for some years now, the COVID-19 Pandemic has led to an increased utilization of telemedicine for outpatient services. With this surge in telepsychiatry utilization, it is important to study the effectiveness of this virtual modality. In order to determine if telemedicine visits were effective in keeping psychiatric patients stable, a retrospective study was performed at Tower Health Reading Hospital Outpatient Behavioral Health using the OQ45.2/YOQ30 assessment tool, which assesses patient reported outcomes across areas of functioning. In order to qualify for this study, patients needed at least two OQ scores with one being prior to the onset of telepsychiatry care and one being after returning to in-person care. Only 33% of the patient population qualified for the study. Patients' OQ score prior to the onset of telepsychiatry care was subtracted from their first OQ score after returning to in-person care to determine their improvement. Results indicated that 51.1% of adults (n=176) improved or remained the same, whereas 48.8% deteriorated. Results indicated that 50.0% of youth (n=22) improved or remained the same, whereas 50% deteriorated. It is important to note that this study was conducted during the COVID-19 Pandemic, where, naturally, many individuals were facing hardships; therefore, to improve or remain the same during the pandemic is still an accomplishment. There were no significant differences in OQ scores between gender, ethnicity, adult age groups, nor number of visits. There were significant differences in adult OQ scores between payer types, and youth OQ scores between race;

however, it is speculated that this result is skewed because the sample is not truly representative of the entire patient population since 61.9% of the adult sample had private insurance and only 22 youth qualified for the study. Further research with a larger sample size of qualifying patients is warranted.

#### **No. 70**

##### **Psychosis as a Presenting Symptom in Anti-NMDA Receptor Encephalitis: Reaching the Right Diagnosis and Including Language-Discordant Families in Care**

*Poster Presenter: Brianna Williamson, M.D.*

#### **SUMMARY:**

Mr. M is a 38-year-old Latinx male no psychiatric history or illicit substance use who presented to the ED for evaluation of altered mental status with auditory and visual hallucinations. His medical history was notable for recurrent optic neuritis and migraines. His family was Spanish speaking which made obtaining comprehensive collateral information challenging. MRI demonstrated asymmetric lateral ventricles and rightward bowing of the septum peduncle. Laboratory results demonstrated a leukocytosis of 14 with neutrophilic predominance. Urinalysis showed >50 WBCs per high-power field with leukocyte esterase and urine drug screen was negative. Mental status exam demonstrated dysarthria, auditory and visual hallucinations, and disorganized thought process. The patient had intermittent decorticate posturing with his left hand over his sternum. While in the ED, despite explaining the importance of a lumbar puncture to assist with diagnosis, the family refused due to concerns about the procedure's invasiveness. The ED attendings pressured the psychiatric consultant to admit to the inpatient psychiatric unit as the Neurology service felt no further workup or conversations with family were warranted. The psychiatric consultant expressed concern for an immunologic or infectious etiology due to abrupt onset of psychosis, viral prodrome, and lack of familial or personal history of psychosis, and refused transfer to psychiatry. This resulted in a general medical admission. Within 24 hours, the patient developed status epilepticus and was transferred to the Neurologic ICU. After the family agreed to a lumbar puncture, anti-NMDA receptor encephalitis

was diagnosed. The patient had a 68-day course notable for intubation, IVIG, methylprednisolone, rituximab, and cyclophosphamide. He eventually returned home against medical advice instead of the recommended skilled nursing facility. Upon discharge he was unable to walk or maintain upright position while supine. There was clear mistrust by the family after the complicated hospital course. Likely the language and cultural barrier with the family contributed to the delay of diagnosis and a suboptimal discharge plan. This case aligns with reports that families with a non-English primary language receive fewer updates from medical teams and worse health outcomes. It is critical to prioritize adequate time, reliable interpretation, and more frequent communication with non-English speaking families. This is even more essential when the family has concerns about a critical aspect of the diagnostic workup that will alter medical care. Furthermore, in cases of rapid onset psychosis or mental status change, it is crucial to assure comprehensive medical workup for atypical psychotic presentations. Viral prodrome, abrupt onset of psychosis, lack of personal or family history of psychiatric illness are helpful indicators to consider an immunologic or infectious origin of psychosis including anti-NMDA receptor encephalitis.

#### **No. 71**

#### **Racial and Gender Disparities in the Diagnosis and Treatment of Bipolar Disorder**

*Poster Presenter: Vladimir Tchikrizov, M.D.*

*Co-Authors: Eric J. Vallender, Ph.D., Monica J. Taylor-Desir, M.D., Mark Frye, M.D., Mark Ladner, M.D.*

#### **SUMMARY:**

**Background:** While the frequency of misdiagnosis of bipolar disorder in Black patients and the commensurate underutilization of lithium and mood-stabilizing anticonvulsants has previously been observed, these studies occurred more than 10 years ago and lacked comparator groups. The present work was undertaken to determine whether these racial disparities persist in well-studied community and national populations and to compare treatment disparities in bipolar disorder with those observed for schizophrenia. **Methods:** Rates of diagnosis and treatment were quantified

locally using the University of Mississippi Medical Center (UMMC) Patient Cohort Explorer (PCE) and nationally using the NIH-funded All of Us (AoU) Researcher Workbench. PCE is an internal database allowing access to deidentified electronic health records (EHR) at all UMMC facilities, and EHR from consenting participants is also available from AoU. Individuals were identified as carrying a bipolar diagnosis with an ICD-10-CM code of F31.x. Schizophrenia diagnosis was established through ICD-10-CM codes of F20.x and F21. For this study, individuals carrying schizoaffective, delusional, other psychotic disorder, or manic episode diagnoses, but not schizophrenia or bipolar disorder were excluded from further analysis. Using prescription information from the two sources, medications for the treatment of bipolar disorder or psychosis - lithium, FDA-approved anticonvulsants, antipsychotics and antidepressants - were further examined. Patients requiring PRN administration for agitation were identified in PCE. No differentiation was made with regards to route of administration, or generic versus branded medications. **Results:** The relative risk for Black patients receiving a diagnosis of bipolar was reduced, and schizophrenia increased, in comparison to White patients at UMMC. Nationally, an increased rate of schizophrenia and bipolar diagnosis in Black patients was observed. Black patients with bipolar disorder, in comparison to White patients, had significantly less utilization of lithium, lamotrigine, and antidepressants, but greater utilization of haloperidol or other first generation antipsychotics. PRN for agitation use was increased in Black patients with bipolar disorder vs White individuals. These disparities in antipsychotic usage were eliminated or reduced in patients with schizophrenia compared to those with a bipolar diagnosis. **Conclusions:** This study shows ongoing racial disparities in bipolar and schizophrenia diagnoses, as well as treatment. These disparities have real world clinical implications with less utilization of gold standard mood stabilization treatment. Further community-guided research to better understand the origins of these disparities and clinical trials to evaluate non-antipsychotic mood stabilization treatment for bipolar disorder across populations is warranted.

**No. 72****Rolling With the Punches: Management of Postictal Agitation**

*Poster Presenter: Jacob Cross, M.D.*

*Co-Authors: Cody Naughton, M.D., Charles Hebert*

**SUMMARY:**

Background Postictal period is a complex state of neurological dysfunction that can have protean psychiatric presentations of delirium, psychosis, affective states and catatonia (1). Postictal psychosis (PIP) occurs in about 4% of epilepsy patients and is the most common cause of psychosis in epilepsy comprising about 25-30% (2,3). PIP can present with fluctuating awareness, paranoia, hallucinations and agitation. PIP-associated agitation can result in targeted violence in 22.8% of cases and even homicides (4,5). PIP management involves behavioral and pharmacological approaches. In the absence of established guidelines, antipsychotics are often utilized, but management is challenging with high risk of violence with unintentional harm to self or others. We describe a case of prolonged PIP and demonstrate a multimodal pharmacological approach. Case summary A 27-year-old African-American man with autism spectrum disorder, learning disability, developmental delay, partial seizure disorder, and psychological nonepileptic seizures presented from an outside hospital with uncontrolled agitation for continuous EEG monitoring following witnessed status epilepticus. He arrived intubated and sedated. His hospital course included severe agitation requiring restraints as well as a combination of intravenous (IV) dexmedetomidine, propofol, midazolam and fentanyl. Attempts to wean these led to worsening agitation, paranoia and delusions. Trazodone, mirtazapine, and clonidine were used without success to manage agitation. IV haloperidol quelled his agitation, ultimately allowed extubation after 16 days and controlled emergent paranoid delusions. Guanfacine was added to aid weaning of dexmedetomidine. Before discharge, IV haloperidol was switched to oral olanzapine. His antiepileptic regimen was bolstered by adding lacosamide. Discussion Predisposing factors of PIP include seizure clusters, borderline low intelligence and diffuse brain pathology. Most episodes resolve in days, but interictal psychosis, family history, and impaired

cognitive function are risk factors for prolonged duration (3,6). Our patient presented with many of these risk factors, underlining the importance of recognition of these to vigilantly anticipate and treat PIP. We highlight the severity and challenges of treating PIP-associated agitation. In the setting of severe agitation and the lack of established guidelines, we utilized a multimodal pharmacological approach targeting multiple receptors including D2, alpha-2 and GABA-A. We discuss the rationale for selection of agents in such cases in a stepwise manner, while maintaining the ever tenuous balance between excessive sedation and agitation control. Implications - Identification of risk factors can facilitate prompt diagnosis and treatment of PIP - PIP-associated agitation can be severe and effective management requires creative utilization of multimodal pharmacotherapy - Future directions should include best practice guidelines for management

**No. 73****Seronegative Autoimmune Encephalitis: A Case Report**

*Poster Presenter: Abigail Lee-Rodgers, D.O.*

*Co-Authors: Janani A. Udaya-Shankar, M.D., Bolek Payan, D.O., Alicja Wasilewski, Thomas Fluent*

**SUMMARY:**

Seronegative Autoimmune Encephalitis (AE) is a progressive neuropsychiatric disorder resulting from inflammation of critical brain areas, including the cerebral cortex, striatum, peripheral nervous system, and limbic system [13]. AE may manifest with acute or subacute encephalopathy, seizures, cognitive impairment, and/or neuropsychiatric symptoms [2]. Of note, psychosis can be the only initial examination finding. AE accounts for approximately 20% of encephalitis cases [1] and has an incidence of 5-10 per 100,000 people [12]. Definitive diagnosis is largely reliant on antibody testing, which is often not readily available, often resulting in significant treatment delay. Further complicating diagnosis, a negative workup does not rule out the condition as CSF and MRI findings are negative in up to ? of patients [1]. Considering the consequences of AE are potentially life threatening, physicians must be vigilant and maintain a low threshold for aggressive

investigation and treatment of AE. Here we describe the case of a 28-year-old female, previously healthy, who presented for evaluation of acute onset psychosis, mood dysregulation, and bizarre behavior, as well as a broad range of additional symptoms, including blurred vision, headaches, urinary incontinence, chest pain, transient facial droop, and weakness of all extremities x 2-3 months. Psychiatric evaluation revealed disorganized thought process, paranoid delusions, and disorientation to time. She was transferred to the medical service for further medical workup. Infectious and autoimmune panels, MRI brain, CT head, EEG, and CXR were normal. A lumbar puncture revealed neutrophilic pleocytosis with WBC of 14K with 50% neutrophils. Psychotic symptoms and associated psychiatric/neurologic complaints resolved following treatment with Solumedrol 1000 mg IV x 3-5 days on multiple presentations. This case aims to highlight the challenges in timely diagnosis and treatment of seronegative AE, as it may be inaccurately diagnosed as first break psychosis and inappropriately treated with antipsychotics, which has been shown to induce catatonia in patients with AE. Diagnosis is difficult and often exclusionary in approach and waiting for antibody testing can result in significant treatment delay. Negative antibody testing does not rule out the presence of the condition as antibodies can remain absent or develop later in the disease course, and both imaging and other laboratory studies are frequently unremarkable. Given that rapid treatment of AE can result in quick and complete resolution of psychotic and neurologic symptoms, clinicians must maintain a low threshold for diagnosis and treatment despite lack of supporting studies.

#### **No. 74**

#### **Sertraline Overdose Induced Mania in Adolescent: A Case Report**

*Poster Presenter: Rachael Brothers, D.O.*

*Co-Author: Krupa Patel*

#### **SUMMARY:**

**BACKGROUND:** It is well known that the use of antidepressants can induce mania in vulnerable populations such as children and adolescents<sup>1</sup>. The phenomenon of antidepressant-induced switching,

the transition of depression to mania, is most frequently reported with the use of tricyclic antidepressants<sup>1,2</sup>. SSRI-induced mania is less common, and some studies have reported rates of SSRI-induced mania are comparable to placebo<sup>1,2</sup>. **OBJECTIVE:** The primary objective of this case report is to report a rare case of sertraline overdose induced mania in an adolescent female. **CASE:** A 15-year-old Asian female, with a history of depressive symptoms and recent self-injurious behavior via cutting of forearms with razor, presented to the ER of our behavioral health facility after intentional overdose on sertraline pills of unknown dose as a self-reported suicide attempt. Reportedly, the patient was prescribed paroxetine 25 mg once daily for several years by her psychiatrist in China. Over the past several weeks, she reported worsening of depressive symptoms which led her psychiatrist to add Sertraline. Sertraline was mailed to the patient by her father who resides in China. Prior to the hospital admission, the patient experienced suicidal ideation with a plan to overdose and consumed a total of 10 pills of Sertraline. She was brought to the ER 30 minutes after overdose and was treated promptly with 1 liter of normal saline for sinus tachycardia, HR 115. During her initial evaluation, she reported depressive symptoms but did not exhibit overt manic or psychotic symptoms. She also denied history of anxiety, mania, and psychotic symptoms. She reported infrequent alcohol use but denied other history of substance use and psychiatric disorders. Home medications including paroxetine and sertraline were discontinued. While on the unit, she continued to present with ongoing depressive symptoms. On day 4, she presented with new-onset manic symptoms including hypertalkativity, circumstantiality/tangentiality, derailing, pressured speech, distractibility, and impaired affect. She also endorsed derogatory type auditory hallucinations. She denied self-harm, suicidal/homicidal ideation, intent, or plan. Consent to start the patient on Ziprasidone was obtained from her father. EKG was normal. On day 5, she was started on Ziprasidone 20 mg once daily. She tolerated Ziprasidone well except for some daytime fatigue. She continued to improve and achieved total resolution of manic and psychotic symptoms. On day 7, she was discharged in stable condition, not in imminent danger to self or others. **CONCLUSION:**

Previous research has shown that sertraline induced mania may be dose dependent and dose threshold can vary considerably among individual youths<sup>3</sup>. Younger individuals and those with a family history of mania are considered high risk<sup>3</sup>. It is imperative that clinicians are aware of the development of mania in such patients in the setting of sertraline overdose, regardless of the dose.

#### **No. 75**

##### **Sex Differences in the Effects of Adolescent Alcohol Exposure**

*Poster Presenter: Rebecca Kimiko Yoon*

##### **SUMMARY:**

Adolescent alcohol exposure is one of the strongest risk factors for the development of alcohol use disorder. Notably, affective disorders tend to emerge during this period of development as well. There is a growing body of evidence that suggests adolescent alcohol use in females is outpacing males, and that there are sex differences in various aspects of alcohol use. Women are more likely to use alcohol to blunt emotions of negative affective disorders such as anxiety and depression, while men are more likely to drink alcohol for the positive reward effects. To understand the underlying mechanism, it is necessary to understand the sexually dimorphic brain circuitry impacted by adolescent alcohol use. In part, emotional behaviors are regulated by the bed nucleus of the stria terminalis (BNST). The BNST is a sexually dimorphic region of the brain that modulates negative affect and stress. Alcohol-induced changes in BNST plasticity may explain the mechanism of sex differences in negative affect phenotypes that develop during adolescence in people that consume alcohol. Previous behavior experiments in the Wills Lab have revealed that glutamatergic signaling in the BNST is disrupted by adolescent alcohol use, however the mechanisms are distinct between males and females. Male and female C57Bl/6J mice underwent two 4-day cycles of alcohol vapor exposure (16 hours/day) with a 3-day period of rest between cycles from PND 30-41 (adolescent intermittent alcohol exposure: AIE). The control groups were in chambers with vaporized water. During acute withdrawal, brains were collected for

RNAscope, We identified BNST cell populations activated during acute withdrawal from AIE by labeling RNA transcripts for the immediate early gene, cfos. RNAscope was used to quantify colocalization of cfos expression with corticotropin releasing factor (CRF) and corticotropin releasing factor receptor 1 (CRFR1). CRF-CRFR1 signaling in the BNST is activated in times of stress and anxiety. Our goal is to identify whether CRF and/or CRFR1 signaling is activated during the withdrawal from AIE and if there are sex differences in this activation between male and female mice. Overall, RNAscope data reveals several non-significant, but trending results. In the BNST, female mice have higher overall cellular activation and CRF/CRFR1 colocalization, but these levels are not impacted by AIE treatment. In male mice, AIE enhances CFOS/CRF/CRFR1 co-expression demonstrating a greater sensitivity of BNST CFOS/CRF/CRFR1 signaling from alcohol withdrawn male mice, and this expression is almost significant in terms of sex differences ( $p=0.0580$ ). These results suggest sex differences in CRF-CRFR1 signaling and the regulation of this signaling by AIE. Future studies will increase the animal number in each to group to see if these trends will become significant.

#### **No. 76**

##### **Social Media Addiction Among Adolescents and Adults**

*Poster Presenter: Aitzaz Munir*

*Co-Authors: Muhammad Aadil, M.D., Shahman Shahab*

##### **SUMMARY:**

Social Media can be defined as websites and online apps or programs that enable us to connect with each other and communicate using mobile phones or the internet. In 2020, Facebook had 2.5 billion active users around the world where about 88 percent were between ages of 18 and 30. Around 7.5 million children have Facebook and other social media accounts including Instagram and Snap Chat despite having restrictions to register below age of 13. Children and adolescents spend most of their time on social media using these apps causing negative impacts on their lives including poor school performance, aggressive behavior, higher rates of

anxiety, depression, isolation, sleep problems and poor self-esteem. Research has shown positive correlation between depressive symptoms, sleep issues and the use of social media in terms of time. There are multiple signs and symptoms that can be recognized to help with the diagnosis of social media addiction. There is not many therapeutic options however SSRIs have been studied for the treatment and psychotherapy modalities like CBT can help with treatment of social media addictions.

#### **No. 77**

##### **Sociodemographic and Structural Factors Predicting Chemical and Physical Restraint Use in Agitated Patients in the Adult ED**

*Poster Presenter: Stephanie Eng, M.D.*

#### **SUMMARY:**

Background: In patients who present to the emergency department (ED) for medical or psychiatric complaints, symptoms of agitation can present during the ED encounter. If patients' agitation is severe enough that patients are deemed to be a risk to themselves or others, providers must decide whether to mitigate risk by chemically or physically restraining patients against their will. Historically, standardized, evidence-based guidelines for assessing agitation levels and guiding restraint use have rarely been implemented in hospitals across the U.S. Instead, a provider's decision to administer restraints is subjective, colored by unintentional subconscious biases that can perpetuate health inequities. Previous research: Studies using the Implicit Association Test, a test that measures the subconscious associative tendencies of an individual, have shown that healthcare providers have the same unconscious biases derived from cultural stereotypes as the general population.<sup>1,2</sup> Despite this, studies have shown that implicit biases have low predictive ability for discriminatory decision-making in clinical vignettes.<sup>3</sup> However, no studies exist addressing whether implicit biases affect providers' decision-making in high-stress, real-time settings, such as assessing agitation in the ED, during which providers have less time and capacity to consciously override their subconsciously held biases.

Objectives/Methods: This retrospective chart review

examines whether patient sociodemographic characteristics and structural factors predict the administration of chemical and/or physical restraints on patients for agitation symptoms that can be qualified as either: hyperactivity, verbal agitation, physical agitation, or resistance to/withdrawal from care. Natural language processing will be used to identify the sample of patients with these agitation subtypes documented during ED encounters. These patient charts will be searched to extract (a) sociodemographic characteristics (age, gender, race/ethnicity, language, if brought in police custody, insurance, housing status...), (b) structural factors (time of the day, time of the year), (c) outcomes (LOS, psych consult called, admitted/discharged, # total chemical restraints received...), and (d) types of restraints used (class of chemical restraint medications, type of physical restraints). These characteristics will be compared across groups. Results/Conclusion: The chart review will examine whether implicit bias manifests in providers' inequitable use of restraints on marginalized patient groups, mirroring patterns of excessive force use in society since the origins of modern-day policing. Ultimately, the data will support the need to challenge structural inequities via implementation of standardized guidelines in the ED for (1) assessing agitation, and an evidence-based protocol for (2) when and which psychotropic agents to use as chemical restraints, and (3) when to use different types of physical restraints.

#### **No. 78**

##### **Spirits or Schizophrenia: The Role of Indigenous Cultural Beliefs in the Treatment of Psychosis**

*Poster Presenter: Jennifer Hong, M.D.*

*Co-Authors: Anna J. Sheen, Laura Hein, Sarah E. Miletello, M.D.*

#### **SUMMARY:**

JD, a 29-year-old Hispanic male with no past psychiatric history and medical history of essential tremor, was brought to the emergency room by the family for acute worsening of essential tremor. The patient was found to exhibit active psychotic symptoms, including responding to internal stimuli, disorganization, and endorsing multiple bizarre grandiose delusions. The patient's Spanish-speaking



family denied any history of recent bizarre behavior or social isolation and remained fixated on the patient's essential tremor. His urine drug screen was positive for cannabis and otherwise unremarkable. The patient was admitted to the inpatient dual medicine and psychiatric unit for stabilization. The patient was started on aripiprazole 10 mg for his psychosis and clonazepam 0.5 mg twice daily for his essential tremor. The patient continued to endorse grandiose delusions of "being the son of the Sun, curing people with HIV and murdering people with my eyes." Throughout his admission, his family remained adamant in denying the existence of any psychotic delusions and emphasized that his essential tremor was his only problem that needed treatment, as the condition had been debilitating to several family members. As the patient stabilized, it was discovered that the patient was part of an Indigenous population named Garifuna that has faced a history of repression and violence, especially for their cultural beliefs. The Garifuna religion and cultural belief system includes voodoo, spirits, shamans, and natural remedies. The family left Honduras to escape persecution and feared he was being "locked up for his cultural beliefs". With several lengthy family meetings and discussions using a translator, the family was educated regarding psychosis and able to appreciate how his symptoms were not consistent with their cultural beliefs. The family eventually admitted that the patient had been increasingly isolative and paranoid in the last three to four months. The patient's family was supportive and understanding of the team's diagnosis and became engaged in his care, which should improve his prognosis. The patient was discharged on Abilify Maintena 400 mg and clonazepam 0.5 mg twice daily and referred to the Early Psychosis Intervention Program with the diagnosis of schizophreniform disorder. In this poster, we discuss the challenges and importance of bridging different cultural beliefs in medicine and psychiatry in a patient with first-episode psychosis.

#### **No. 79**

#### **Suicide by Cop: A Case Study**

*Poster Presenter: Mary Grace Thetford-Harvey*

#### **SUMMARY:**

**Introduction:** Suicide by cop (SbC) is a method of suicide in which a suicidal individual uses various threatening methods to elicit a response from a cop to be killed. This case study describes this unique form of suicide. We discuss its relation to previous research that has been conducted and highlight our need to bring further awareness and preparedness surrounding this topic. **Case Summary:** A 37-year-old African-American male with a past medical history of marijuana use disorder presented to OU Health for GSW related to suicide by cop incident. Psychiatry was consulted due to suicidal ideation. During our interview, he was emotionally labile and had significant tangentiality of speech with delusional and disorganized thought processes. He also demonstrated paranoia and anxiety towards the Oklahoma City Police Department, stating their intent to kill him. However, notes written the week prior, directly after the incident, stated that he was suicidal and attempted to get the police to kill him due to changes in his personal life in which he felt hopeless. Further interview with family described a patient with no diagnosed history of mental disorders but a few depressive episodes throughout adolescence in which he verbalized intent to harm himself. Before the altercation with the officer and attempted suicide by cop, the patient had displayed many features of mania. He also advised a family member to take his life for him to avoid carrying out the act himself. Ultimately he got into his vehicle with his firearm and sought out the police by initially ramming his car into them before opening fire on the officer. A shootout ensued, resulting in a gunshot wound with internal bleeding and an extensive stay/recovery at the hospital. **Discussion:** Previous studies have concluded the demographic of the individual to be a male in their mid- 30s, history of suicidal ideation, disrupted interpersonal relationships, previous history of mental health concerns or diagnosed mental health disorder. In the case above, we can see multiple parallels that further support the established literature. Additionally, the literature suggests that SbC accounts for around 10% to 36% of officer-involved shootings. Moving forward, this calls into action how we can better prepare our law enforcement officers for this specific situation in their education/training to minimize the potential traumatizing

repercussions. What is usually a private act involving the individual alone transforms into a burden placed onto law enforcement officers when using lethal force to protect themselves. This issue becomes exceptionally relevant with the current friction between the public and law enforcement officers. Lastly and importantly, clinicians, family members of those with mental health disorders, and the public should be aware of SbC as a form of suicide to better recognize warning signs and potentially help prevent a SbC incident from occurring.

#### **No. 80**

##### **Takotsubo Cardiomyopathy Associated With Withdrawal From Xylazine, Opioids and Benzodiazepines in a Peripartum Woman: A Case Report**

*Poster Presenter: Adam Cohen-Nowak*

#### **SUMMARY:**

Xylazine, an alpha-2 agonist used as a tranquilizer in veterinary medicine, is an increasingly common adulterant in the opiate supply in the city of Philadelphia. Heroin or fentanyl laced with xylazine, also known as ‘tranq dope,’ has been implicated in an increasing number of unintentional overdose deaths. Previous studies have supported the theory that sedative properties of xylazine worsen respiratory depression in concurrent opioid intoxication and contribute to naloxone-resistant overdoses. However, the withdrawal syndrome associated with xylazine and xylazine-laced drugs has not been widely studied. We present the case of a 31-year-old pregnant female admitted to the labor and delivery service at an academic center for debridement of infected wounds and methadone stabilization, who experienced progressively worsening withdrawal symptoms from xylazine, fentanyl and xanax resulting in acute heart failure secondary to Takotsubo cardiomyopathy. The patient required emergency cesarean section in the catheterization lab, stabilization in the intensive care unit and aggressive medical management of withdrawal. For the severe withdrawal syndrome associated with any use of xylazine, we recommend early telemetry monitoring, administration of alpha-2 agonists such as clonidine or dexmedetomidine and medical management of withdrawal with

adjunctive agents. More investigation is needed into the toxidrome and withdrawal syndrome associated with xylazine and tranq dope.

#### **No. 81**

##### **The Case for Integrated Care: Trends and Treatment Outcomes in an Integrated Psycho-Oncology Clinic**

*Poster Presenter: Shireen Samson, M.D.*

*Lead Author: Aniruddha Deka, M.D.*

*Co-Author: Jonathan Louis Kaplan, M.D.*

#### **SUMMARY:**

**Background:** Psychiatric disorders, diagnosed with existing nosological classification systems, afflict 30-35% of cancer patients. Another 15-25% of cancer patients have other clinically distressing psychological problems such as demoralization, health anxiety, and existential crisis. However, treatment of psychiatric disorders in cancer patients can be challenging with only mixed evidence available for effectiveness of psychotropic medications in depression associated with cancer. **Methods:** We conducted a retrospective chart review of patients with cancer and comorbid psychiatric disorders who were treated in an integrated psycho-oncology clinic. Demographic and clinical data about treatments and diagnoses were collected. Clinical Global Impression-Severity (CGI-S) and Clinical Global Impression-Improvement (CGI-I) scores were assigned by two independent reviewers. Disagreements were reconciled by a third reviewer, who was also the treating psychiatrist. **Results:** This analysis included 131 patients. 72.4% of patients were female. 65.4% were White and 19.29% were African-American. The most common psychiatric diagnosis identified was Major Depressive Disorder (MDD) (45.4%), followed by Generalized Anxiety Disorder (GAD) (27.7%) and Adjustment Disorder (AD) (5.4%). More than half (53.4%) of patients had a secondary psychiatric disorder, the most common being GAD (18.3%). The most common primary psychotropics used in MDD were sertraline (11) and venlafaxine (11). In GAD, sertraline (9) and escitalopram (9) were most common. Cumulatively, per the CGI-S, most patients were moderately ill on presentation and per the CGI-I, a large number of patients noticed improvements in their symptoms with 42.9% “much improved” and 10.6% “very much

improved". 65.4% of patients were receiving adjuvant psychotherapy as part of their treatment. Discussion: Findings revealed an even larger than expected gender difference with a higher proportion of women in the clinic compared to the known prevalence of psychiatric disorders in men and women. This could be related to provider or patient attitudes, or higher referral rates for breast and gynecologic cancers. Response to treatment in this review was strikingly better than usual rates. Reasons could include high rates of adjuvant psychotherapy, screening to include patients with more severe disease which respond better to treatment (reflected by lower share of AD and higher share of MDD and GAD), possible prescribing patterns, and collaboration between providers in an integrated care model. Conclusion: This data provides valuable demographic and clinical trends from this experience in an embedded subspecialty clinic, which show deviations from the available literature in general cancer care settings. The causes for these differences need more exploration so that effective interventions can be provided to appropriate patients. Some benefit may be attributable to the integrated model of care.

#### **No. 82**

##### **The Challenge of Differentiating Primary Psychotic Disorder From Other Psychiatric Disorders in Patients With Autism Spectrum Disorder**

*Poster Presenter: Kelly Chen*

*Co-Authors: Cydney Terryn, Dwight E. Kemp, M.D., M.S., Peter C. Penhershki, M.D.*

#### **SUMMARY:**

A 22YOWM with a psychiatric history of Schizoaffective disorder, Autism spectrum disorder (ASD), Intellectual disability, and Attention-deficit/hyperactivity disorder (ADHD) presented to the Emergency Department with agitation, poor sleep, auditory hallucinations, suicidal ideation, and violent behavior. On admission, patient was on Fluoxetine 80 mg daily and Quetiapine 500 mg daily. Prior medication trials included the antipsychotics Risperidone, Paliperidone, Haloperidol, and Clozapine, as well as the mood stabilizer lithium. During hospital admission, Fluoxetine was discontinued due to concern for overactivation and

irritability, especially in a neuro-atypical patient. With continued hospital observation, patient displayed primarily hyperactivity, impulsivity, and poor social communication skills more consistent with ASD and ADHD than Schizoaffective disorder. There was no convincing evidence of psychotic or mood symptoms in the present or in the past. Further history taking revealed that the patient's father recently died prior to hospitalization, likely leading to grief and significant change in home routine. The patient's presumed auditory hallucinations (hearing and seeing deceased relatives) and acting out behavior were consistent with magical thinking and normal grief reaction. This led to the concern for suboptimal management of his autism-related symptoms misattributed to Schizoaffective disorder. Quetiapine was cross titrated with Aripiprazole as an FDA-approved neuroleptic for autism-related irritability. Clonidine and Methylphenidate were added for ADHD related impulsivity. The patient's symptoms significantly improved with these medication changes and a structured hospital environment. The patient was discharged home after a 17 day hospital stay with outpatient follow-up. Thorough history gathering and independent clinical assessment can help elucidate the source of the presenting picture in patients with neuro-atypical conditions such as ASD. In this poster, we discuss the challenges and importance of differentiating psychotic symptom etiology from symptoms related to ASD.

#### **No. 83**

##### **The Christian Mental Health Initiative: Increasing Mental Health Literacy Among Black Church Leaders**

*Poster Presenter: Atasha Jordan, M.D., M.B.A.*

*Co-Author: Rachel Talley, M.D.*

#### **SUMMARY:**

Background According to the Pew Research Center, approximately 80% of Black Americans – roughly 30 million people – identify as Christian. Studies suggest that the majority of Black Christians seek counsel from church leaders rather than mental health clinicians in times of psychological distress. However, church leaders' seminary training focuses on spiritual health, not mental health. As such, there

presently exists an extensive gap between faith and mental health literacy within Black Christian communities. Few studies exist that examine the role of mental health education within the Black church. Aims/Objectives/Issues of Focus This study aims to bridge the gap between faith and mental health by providing Black church leaders a validated educational framework to better recognize church members' mental health challenges. Mental Health First Aid (MHFA) is an evidence-based eight-hour workshop through which attendees receive mental health emergency training. The goal of this study is to assess the efficacy of MHFA to increase the mental health literacy of Black church leaders, increase Black church leaders' willingness to refer congregants to mental health resources, and increase Black church leaders' referral rates to mental health providers. Here, we describe the proposed methodology for this study and present pre-intervention outcomes. Methods/Proposition The present study aims to expand on the use of MHFA as an educational intervention within Black Christian churches. Study subjects are Gospel Hall and/or Brethren church leaders in the Greater Philadelphia area recruited to participate in the MHFA workshop. In collaboration with certified MHFA instructors, we will administer the workshops in groups of approximately 25 attendees. Subjects will complete brief pre-and post-intervention surveys including basic demographic data, short response, multiple-choice and Likert-scale items to assess their knowledge of mental illnesses and their willingness to refer church members to mental health resources. Data from pre and post-intervention surveys will be compared using t-test statistical analysis. Results/Potential Outcomes We will summarize pre-intervention survey data from the initial phase of this study which captures baseline self-reported knowledge of mental illness and willingness to refer church members to mental health services among Philadelphia-area church leaders. We hypothesize that Black church leaders will self-report significantly increased knowledge of mental illness and increased willingness to refer church members to mental health resources post-intervention as compared to pre-intervention. Discussion/Implications Many Black Americans currently receive their psychiatric and psychological care from pastors and church leaders who are

untrained to provide this level of support. We aim to better equip Black church leaders to direct their congregants to the appropriate level of psychiatric and psychological care.

#### **No. 84**

#### **The Impact of Competency-Based Tracks in a Transition to Residency Course on Medical Student Perceived Preparedness for Psychiatry Residency**

*Poster Presenter: Margaret Yau*

*Co-Authors: Jeannie Lochhead, Douglas Grover, Michele Nelson, Diem Nguyen*

#### **SUMMARY:**

Medical students face multiple transitions throughout their education, which are associated with increasing demands and responsibilities. As documented in the literature, these transitions heighten learners' stress and concern about their preparation for their new role as resident physicians. The fourth year of medical school aims to provide students with a comprehensive education and preparation for a student's chosen residency. Numerous "boot camp" style courses have been created to address the unique needs of students transitioning to residency. These programs are designed to bolster clinical skills, knowledge, and confidence during their transition from medical student to resident physicians. The "Back to Basics" course is a four-week course during the fourth year at University of California, Riverside School of Medicine (UCR SOM), and it exemplifies a "boot camp" program. At UCR SOM, this course was redesigned to include competency-based tracks to better prepare students for their transition to their chosen residency. The psychiatry competency-based track was spearheaded by faculty and residents with medical student feedback. The residents participated as part of a Health Resources & Services Administration training program. All medical education programs, including the intern preparation boot camp courses, are charged with evaluating learner activities during these courses as well as the learning outcomes, in order to determine program or course effectiveness. At the beginning and end of this "Back to Basics" course, we also measured student perception of their preparation for psychiatry residency using a survey with seven

items rated by a five-point Likert scale . An independent t-test identified a significant improvement in preparedness between the pre- ( $M = 16.44, SD = 3.93$ ) and post-test ( $M = 19.20, SD = 2.88$ ),  $t(73) = 2.87, p = .005$ , suggesting that students perceived that the course improved their preparedness for residency training. This shows the value in collaboration of undergraduate and graduate medical education programs to prepare fourth-year medical students for psychiatry residency.

#### **No. 85**

##### **The Importance of Competent Cultural Care in Psychiatry: When Psychosis, Substance Misuse and Culture Collide**

*Poster Presenter: Chloe Ariel Schneider, D.O.*

*Co-Author: Sheryl Fleisch*

#### **SUMMARY:**

Mr. A, a 22-year-old Hispanic, Spanish-speaking man with an unknown past psychiatric history, presented to the emergency room (ER) under an involuntary psychiatric hold placed by police officers for acting erratically, waving a knife around and walking on the streets with the belief the devil was coming for him. While en route to the hospital with emergency medical services, he was given Haldol 5 mg, Benadryl 50 mg, and Ativan 2 mg (unknown route of administration) due to combative behavior. The patient was ultimately admitted to a medical floor for rhabdomyolysis as well as amphetamine intoxication, identified on urine drug screen. Psychiatry was consulted for evaluation of psychosis. With the use of a Spanish translator, the patient explained he had been walking for four days and was using both alcohol and methamphetamine. Throughout the interview, he would continually kiss a small silver idol on a string around his wrist and save his breakfast (an apple and coffee) daily for the idol, which could have initially been misunderstood to be part of his psychosis. Throughout hospitalization, the patient was treated aggressively with diazepam for alcohol withdrawal, and each day, he was able to provide a clearer history. He explained that the idol was Santa Muerte, "Our Lady of the Holy Death," a folk saint or cult image often prayed to in Mexico for healing and protection. This

case highlights the importance of not only speaking to patients in their native language to more adequately get thorough histories, but also stresses the importance of understanding cultural aspects of patients (in this case the strong belief in Santa Muerte) and the importance of teasing cultural ideologies apart from primary psychotic symptoms and substance use intoxication or withdrawal. There is a deficiency in publications involving Santa Muerte in relation to psychosis and substance use, so this aims to bring awareness to this cultural ideology in its interaction with mental health as well.

#### **No. 86**

##### **The Potential Role of TMS in the Treatment of Fibromyalgia Syndrome**

*Poster Presenter: Jedd Jack Audry, M.D.*

*Co-Author: Alicja Wasilewski*

#### **SUMMARY:**

Fibromyalgia Syndrome (FMS) is characterized by chronic, generalized musculoskeletal pain without identifiable tissue pathology [6]. Most recent research shows that FMS affects 2-4% of the general population, however, in psychiatric clinical practice, prevalence appears to be significantly higher. Although the exact mechanism of FMS is unknown, there are hypotheses that decreased pain inhibition [6], exaggerated pain response, and alterations in levels of glutamine and dopamine play a role in the underlying pathology [8]. Specifically, studies have shown a positive correlation between FMS and glutamate levels within the posterior cingulate gyrus, posterior insula, ventrolateral prefrontal cortex, and amygdala [10] and decreased dopaminergic binding within the ventral tegmental area and substantia nigra of the midbrain [11]. Although FMS has been considered a disorder of the musculoskeletal system historically, presenting symptoms are often psychiatric and include executive dysfunction, inattention, depression, and anxiety [2],[6]. These symptoms may be secondary to alterations in neurotransmitter levels and function. As psychiatric symptoms and chronic pain are comorbid within FMS patients, previous studies have shown a 90% prevalence of depressive symptoms in the setting of FMS [7]. Historically, first-line treatment for FMS has been pharmacologically

based, including antidepressants and gabapentinoids, which often provide little relief and carry significant side effect profiles, including impaired concentration, somnolence, and fatigue secondary to their effects on neurotransmitters and interactions with other medications including opiates. Behavioral interventions, physical therapy, exercise, and alternative medicine modalities have also been used in combination with medications. However, no single treatment modality has proven effective for the full range of FMS symptoms. There have recently been efforts to treat the disorder using transcranial magnetic stimulation (TMS) targeting pain processing areas. These include the primary motor cortex (M1) and dorsolateral prefrontal cortex (DLPFC). Studies have revealed that targeting M1 resulted in decreased pain ratings without effect on cognitive and affective measures, whereas stimulation of the DLPFC relieved depressive symptoms [1]. Within this review, we summarize the results of previous studies regarding the effect of TMS treatment on pain and affective symptoms secondary to FMS and its potential for safer management of fibromyalgia syndrome. Current evidence suggests a correlation between magnetic stimulation of dysfunctional pain processing pathways, including M1 and the DLPFC, and improvements in central sensitization, depression, and anxiety. It is our opinion that TMS should be considered as an FMS intervention as it is potentially safe, efficacious, and minimally invasive.

#### **No. 87**

##### **The Roof Is on Fire! A Case of Antidepressant Induced Burning Mouth Syndrome**

*Poster Presenter: Kinza Tareen, M.D.*

*Co-Author: Anna Pearl Shapiro-Krew, M.D.*

#### **SUMMARY:**

**Background:** Burning mouth syndrome (BMS) is characterized by discomfort or pain of the oral mucosa associated with xerostomia, oral paresthesia, and altered taste sensation.<sup>1</sup> This constellation of symptoms primarily afflicts postmenopausal women and is associated with considerable distress. Symptoms are either progressive, constant, or intermittent.<sup>1</sup> The pathology remains unclear, but peripheral small

fiber neuropathy of the intraoral mucous, subclinical trigeminal pathology, or dopamine hypofunction have been proposed as possible causes.<sup>1</sup> While BMS spontaneously remits in nearly 30% of patients, benzodiazepines, antidepressants, and antipsychotics represent the mainstay of treatment for the majority of cases,<sup>2</sup> however we present a case of an incongruous reaction. **Case Presentation:** We present a case of a 49 year-old perimenopausal woman with a history significant for generalized anxiety disorder. Her psychiatric history is notable for somatic preoccupations and a history of medication sensitivity. She was started on escitalopram 5 mg and developed burning pain within two weeks. Initially, the burning was isolated to her posterior tongue, but gradually involved the entire oral mucosa, increasing in intensity throughout the day. There was no associated dry mouth, heartburn, and no relief with analgesics. When escitalopram was discontinued, patient experienced total relief of symptoms. She was started on citalopram and remains psychiatrically stable with no symptoms of BMS. **Discussion:** The clinical presentation and response to medication cessation in this case suggests a diagnosis of selective serotonin reuptake inhibitor (SSRI) induced BMS. A limited number of cases of SSRI induced BMS have been reported in the literature associated with fluoxetine, sertraline, and venlafaxine.<sup>3</sup> It is unclear why SSRIs would cause BMS, but we suspect it may be related to dopamine dysregulation. Our case illustrates a paradoxical role of antidepressants in BMS, and analyzes the use of SSRIs in both the treatment and induction of BMS symptoms. It is a welcome reminder to evaluate serotonergic agents in patients with new or worsening BMS symptomatology.

#### **No. 88**

##### **The Scarcity of Childhood-Onset Schizophrenia: Characteristics and Trends of Nonpsychotic Hallucinations**

*Poster Presenter: David Nguyen, D.O.*

*Co-Author: Stanley Melchor Fuentes*

#### **SUMMARY:**

**Background:** Childhood-onset schizophrenia (COS) has been known to be more severe than the adult

disorder with more pronounced developmental disorders and genetic risk factors. While up to 5% of children may present with hallucinations, COS has only an incidence of 0.04% with up to 50% of children with atypical psychotic features or mood disorders being misdiagnosed with COS. The diagnosis of COS cannot be based on hallucinations alone, which can be present in a plethora of other psychiatric comorbidities. The frequency and severity of hallucinations may depend more on mood disorders, abuse history, and school life rather than a primary psychotic disorder. Methods: Patient-level data was collected from an acute inpatient child psychiatry unit. Data included demographics, psychiatric history, diagnoses, stressors, and whether they endorsed hallucinations. Hallucinations, bullying, and diagnoses were further categorized and quantified. Results: A total of 165 patient charts were collected between 2014 and 2017. Ages ranged from 6 to 18. Among those patients, 36 endorsed hallucinations. There were 19 females and 17 males with the average age being 11.5. The average number of diagnoses was 2.94. Overall, the patients that reported hallucinations had more vague diagnoses with the top three being Oppositional Defiant Disorder (ODD), Unspecified Depressive Disorder, and Disruptive/Impulse Control Disorder. The most common type of hallucination was auditory (72%). Patients that reported hallucinations frequently identified bullying as one of their stressors (80% vs 53%). Conclusion: Patient data collected on an acute inpatient child psychiatry unit was analyzed to look at characteristics and trends related to hallucinations. About 21.8% of patients in this setting reported hallucinations with none of them meeting criteria for a diagnosis of schizophrenia supporting the low incidence of COS. It is unclear whether the patients endorsing hallucinations had more vague diagnoses due to having more difficulty expressing their symptoms or some alternate reason. It would be important to consider alternative explanations for adolescents reporting hallucinations such as stressors like bullying, trauma, and social determinants of mental health. Differentiating COS from other diagnoses can point to a different prognosis and treatment. Proper diagnosis and management of these symptoms at an early age is important. Future studies might look at the implications of reporting hallucinations during

adolescence along with their management and consider the different long-term effects as they become adults.

#### **No. 89**

#### **The Use of Olanzapine as Preferred Treatment Choice for Methamphetamine Associated Psychosis**

*Poster Presenter: Saad Nazir, M.D.*

*Co-Authors: Usman Ali Sharif, M.D., Mir Ali Raza Talpur, M.D., M.B.B.S.*

#### **SUMMARY:**

**Background:** Over time the prevalence of methamphetamine associated psychosis (MAP) has increased globally including Asia and Europe (Vallersnes 2016; Petri 2017). The purpose of this review is to highlight the importance of olanzapine as the first-line treatment regimen for patients with MAP. The management of methamphetamine-induced psychosis becomes difficult because of the overlapping features with primary psychotic disorders such as schizophrenia (Curran et al 2004; McKetin 2018; Barr 2006; Chiang et al 2018; Dore & Sweeting 2006). Shoptaw et al looked at a RCT and concluded that olanzapine is superior to haloperidol in terms of tolerability and the side effect profile as it causes fewer extrapyramidal symptoms (Shoptaw et al 2009). Another study by Xue et al compared the efficacy of olanzapine and haloperidol for the treatment of amphetamine-type stimulants and it showed that both the drugs had comparable effects but the onset time in the olanzapine group was significantly earlier than the haloperidol group (Xue et al 2018). Srisurapanont et al analyzed 6 RCTs that have been done over the past 20 years and concluded that quetiapine and olanzapine are probably superior than aripiprazole and risperidone but further research may be needed to lower the bias for the RCTs (Srisurapanont 2021; Verachai 2014). Bottom of Form **Method:** PubMed, SCOPUS, and Web of Science literature databases were screened and filtered by using specific search terms, inclusion/exclusion criteria with no time limitation until August 2021. Texts of the selected articles and trials were reviewed and the search terms generated a total of 248 results from the databases. After applying the exclusion criteria 200 citations were left. A total of 15 papers were reviewed in detail for

this abstract. **Results:** The literature review concluded that olanzapine can be used as an effective treatment for methamphetamine-induced psychosis. Olanzapine can help to reduce the psychotic symptoms in MAP with a quicker onset and lesser side effects. Although the number of clinical trials are few in number it would be reasonable to conclude that olanzapine is a safer option for treating MAP in terms of efficacy and safety. **Conclusion:** A treatment protocol can be formulated in the future with regards to the preference of the antipsychotic regimen. Olanzapine can help in the treatment of methamphetamine-associated psychosis and can be considered as the first-line therapy. Research is further needed with a higher pool of candidates in the future to compare the efficacy and tolerability of different typical and atypical antipsychotics. Growing literature is also pointing towards the newer technique of ECT for the treatment of the symptoms of MAP but this practice is not being widely practiced and needs more research.

#### **No. 90**

##### **To Exercise the Right to Exorcise? A Non-Canonical Case of Catatonia**

*Poster Presenter: Eric Chen, M.D.*

*Co-Author: Cristina Montalvo, M.D.*

##### **SUMMARY:**

Background: Catatonia is a complex neuropsychiatric syndrome that is difficult to manage, particularly when an individual is unable to consent to treatment. This case highlights a unique situation involving a requested exorcism for a catatonic patient who could not consent. Case: A 37-year-old Moroccan male with history of schizophrenia was brought in by EMS to OSH after being found down with CK>6000, T 100.8, immobile, mute, cataleptic, and demonstrating echopraxia. He improved after a lorazepam trial and was transferred for consideration of ECT. On initial presentation, he scored a 9 on the Bush-Francis Catatonia Rating scale (BFCRS) but increased to an 18 for which his lorazepam dose was gradually titrated to 20 mg daily with minimal improvement. Memantine was subsequently initiated and BFCRS scores dropped to 10. During the hospitalization, family in Morocco

expressed concern regarding the patient's spiritual condition and requested an Islamic exorcism, known as a *al-ruqya al-shar-iyya* (Suhr 2019), by an Imam, fearing the patient was possessed by a jinn, a type of spirit in Islam. Given the severity of the patient's catatonia, he was unable to consent to treatments. With no information of his religious beliefs at baseline, the request for an exorcism was not honored. Discussion: The legal basis of informed consent in the US dates back to court cases decided in the early 1900s with the fundamental idea that patients have the right to determine what should be done with his or her own body (Dennis, 1999). This applies to any intervention, even if that intervention is non-medical, or might appear benign, such as the exorcism, which in this case may have gone against the patient's wishes. Belief in jinn possession and jinns causing mental health diseases varies significantly among some Islamic populations based on a variety of factors including gender and level of education (Mullick et al, 2013). While families frequently attributed symptoms to jinns, patients themselves have often been found to use more psychological explanations (Dein, 2013). Working alongside spirituality requires a clinician to be cognizant of the unique aspects of each religion. Religious interventions without informed consent can lead to negative consequences for both the patient and the psychiatrist. Exorcisms in medical settings have led to patients reliving past traumas (Pietkiewicz, 2017) and legal action (Cool v. Olson, 1994). Conclusion: Psychiatrists should be cognizant of the need for informed consent around religious practices and special consideration should be given to any proposed intervention for a patient who cannot provide consent.

#### **No. 91**

##### **To Look or Not to Look: Vicarious Trauma From Reviewing Graphic Images in Forensic Psychiatry Cases**

*Poster Presenter: Raina Aggarwal, M.D.*

*Co-Authors: Madelon Baranoski, Ph.D., Maya Prabhu, M.D., LL.B.*

##### **SUMMARY:**

As digital media has become more ubiquitous, forensic psychiatry cases increasingly involve media



discovery in the form of (1) law enforcement body camera and dashboard camera footage; (2) media as part of crimes such as creating child pornography or taping of a crime by the offender; and (3) third party surveillance from store surveillance cameras and home video doorbells that capture the index offense. This can lead to a substantial number of graphic images for forensic evaluators to review. The impact of reviewing these images on evaluators is just now being considered along with the potential for vicarious traumatization. The poster will present two fictionalized cases – one involving a case of child pornography and one of a violent crime. The cases will note the number and type of images and recordings available. Based on those cases and review of literature the poster will present a “debate” examining the risks and benefits of full review of all material versus selective review determined on a case-by-case basis. With these cases and relevant literature as backdrop, we will explore the following questions and issues: (1) In which cases should forensic evaluators review graphic images? Should evaluators review all images in all cases? (2) How should issues of the potential for vicarious traumatization of evaluators be considered in determining whether to review media? (3) Should evaluators review all media involved in a case, or is reviewing some media sufficient in some cases? If reviewing some media is sufficient, how should evaluators determine which media to review? (4) What are the ethical and professional implications of evaluators not reviewing all potentially relevant media for the defendant and the justice system? (5) What are the responsibilities of fellowship programs and supervisors to alert, guide, and protect trainees from the potential of vicarious traumatization in balance with teaching and maintaining professional and pedagogical standards? Lastly, the poster will include pilot data that will address some of these questions and suggestions for research to address others.

## **No. 92**

### **Understanding Borderline Personality Disorder: Psychosocial and Clinical Aspects of Relapse**

*Poster Presenter: Nina Russell*

*Co-Authors: Matthew A. Bond, M.D., Jeffrey A. Metzner, M.D.*

## **SUMMARY:**

**Introduction** Understanding how psychosocial determinants impact treatment outcomes in socio-economically disadvantaged BPD patients can provide a roadmap for effective care. Addressing the social determinants in individuals with BPD may significantly improve patients’ prognosis. **Case Description** We present a case of a 19 year old female with a past history of borderline personality disorder, PTSD, and opioid use disorder who presented to our emergency room six times between June and August of 2021 for self-inflicted abdominal stabbing. Her self-mutilation was interpreted as an expression of rage and helplessness. These extreme measures provided a sense of control as she guaranteed at least a day in the safety of the hospital. From ages 3-8, she was a victim of human trafficking. She entered the foster care system at age 8. Her foster mother was verbally and physically abusive. This resulted in numerous hospitalizations to child and adolescent units for acting out and suicide attempts via intentional overdose. She left the foster system at age 17 and has continued to experience significant trauma. This has resulted in multiple psychiatric hospitalizations due to impulsive and recurrent self-mutilation via self-inflicted stab wounds with various writing utensils. Over the past 6 months she underwent multiple laparotomies resulting in intra-abdominal adhesions leading to probable life-long consequences. Moreover, she was diagnosed with opiate use disorder caused by consistent overuse of medication originally intended for pain control following multiple surgeries. Psychiatrically, she developed pseudopsychosis with hearing the voice of an abuser instructing her to stab herself, which could be secondary to BPD [1], as her tendency to self-harm seemed to be reaffirmed by trauma and the voices seemed to be a manifestation of her response to this trauma episode. We found the most success with Buprenorphine 4mg TID, Amantadine 100mg BID, and Cariprazine 3 mg daily. We used validation, dialectical and problem-solving strategies to help the patient manage, reduce, or stabilize maladaptive behaviors and feelings [2], but the commonly used 12-month version of DBT was lengthy, required substantial resources and could not be easily adopted in many health care settings [3]. 25 facilities refused to accept the patient due to

the complexity of this case and lack of insurance coverage. The more delays the patient experienced, the more she became triggered and the more her team feared self-sabotaging behaviors as seen in the past. The decision was made to have the patient stay in a hotel until her background check for a youth facility affiliated with our hospital cleared. In summary, it is the belief of our team that this patient would significantly improve with a course of effective DBT, and psychosocial support is even more important than medical treatment.

#### **No. 93**

##### **Virtual Warrior Renew: A Pragmatic Pilot Trial of an Online Adaptation of a Manualized Group Therapy Protocol for Survivors of Military Sexual Trauma**

*Poster Presenter: Nicole Michelle Myers, M.D.*

#### **SUMMARY:**

*In progress, data collection will be completed by May*

**Abstract Background:** Sexual trauma is prevalent in both military and civilian populations with significant long-term consequences if not adequately treated. This pragmatic pilot trial investigated the feasibility, acceptability, and efficacy of a semi self-paced, therapist-supported online adaptation of a manualized group therapy protocol for survivors of military sexual trauma (MST). **Methods:** This pilot study used a pre/post measure design to test the feasibility, acceptability, and efficacy of a novel delivery of an emerging evidence-based trans diagnostic treatment protocol for MST survivors. Five cohorts of 10-12 veterans who self-identified as woman who had experienced MST were recruited from Long Beach VA clinics and affiliated sites. The study intervention was an 8-week treatment delivered via self-paced online multimedia learning modules with video guided activities and exercises, supported by weekly therapist-led group discussion sessions. Acceptability of the intervention was assessed by drop-out rate, adherence (as measured by logins and online module completion tracked by the learning platform), brief weekly questionnaires on participants' experience with the content and delivery of each week's modules, as well as a post-treatment feedback form consisting of both Likert-scale and open-ended questions. Pre- and Post-treatment measures to evaluate efficacy were the

General Anxiety Disorder-7 (GAD-7) for anxiety, the Patient Health Questionnaire-9 (PHQ-9) for depression, Posttraumatic Cognitions Inventory (PTCI) and PTSD Checklist for DSM-5 (PCL-5) for PTSD, Work and Social Adjustment Scale (WSAS) for functioning, and Revised Life Orientation Test (LOT-R) for optimism. **Results:** Warrior Renew has been studied and shown effective in a variety of settings, such as a 5-day/week 12-week Intensive Outpatient Program, once a week 12-week Outpatient group, 8-session primary care group, 60-day residential substance abuse treatment program, 5-day intensive retreat, and video teleconferencing. Trials have demonstrated low drop-out rates, decreased symptoms of PTSD, anxiety, and depression, and increased positive factors such as self-esteem and optimism with large effect sizes. We anticipate similar results for the online adaptation of this intervention. **Conclusion:** If preliminary data from this pilot study proves promising, this intervention should be tested in a larger-scale randomized trial against control groups of in-person or video teleconferencing-delivered Warrior Renew (as evolving public health guidance dictates) and traditional CPT, as well as with male veterans and in civilian and active duty military populations to further assess for generalizability of results. An effective online treatment option will help overcome accessibility issues that create barriers to care, and could provide a way to disseminate a highly scalable treatment with excellent fidelity.

#### **No. 94**

##### **What Does Immunology Have to Do With Normal Brain Development and the Pathophysiology Underlying Tourette Syndrome, OCD, and ADHD?**

*Poster Presenter: Isaac N.S. Johnson, M.D.*

*Co-Author: James Frederick Leckman, M.D.*

#### **SUMMARY:**

**Objectives:** To review the past decade's literature and provide a critical commentary on the involvement of immunological mechanisms in normal brain development, as well as their role in the pathophysiology of Tourette syndrome (TS), other Chronic tic disorders (CTD), and related neurodevelopmental conditions including OCD and ADHD. **Methods:** We searched the Medline/PubMed

and EMBASE electronic databases to locate relevant articles and abstracts (2009-2020), using search terms related to the above diseases of interest and also to immune mechanisms (immunity, immune regulation, autoimmunity, transcriptomics, microbiome, immunomodulatory treatment, antibiotics), including both clinical and animal model studies. 245 references are included in this review.

**Results:** There is preliminary, but compelling evidence to indicate that dysfunction in microglial maturation and functioning is implicated in TS and OCD. Direct evidence of pro-inflammatory overactivity in the brain in TS and OCD is modest. Maternal immune activation is likely involved in the development of OCD, ADHD, and probably also TS. These conditions are also associated with an increased risk for multiple autoimmune disorders. There is evidence that alterations in the gut microbiome and significant infectious exposure in early childhood both have an association with ADHD. There is mixed data regarding a potential correlation between post-natal Group A Strep or non-Strep infections and the development of CTD or OC symptoms. **Conclusions:** Hyper-reactivity of systemic innate and adaptive immune pathways and neuroinflammation may contribute to the natural fluctuations of the core behavioral features of CTD, OCD, and ADHD. In the conceptual framework of the holobiont theory, emerging evidence points also to the importance of the “microbiota-gut-brain axis” in the pathobiology of these conditions. There is limited knowledge of the efficacy of direct and indirect immune-modulatory interventions in the treatment of these conditions. Future research also needs to focus on the key molecular pathways through which dysbiosis of different tissue microbiota influences neuroimmune interactions in these conditions, and how microbiota modification could modify their natural history. It is also possible that valid biomarkers will emerge that will guide a more personalized approach to treatment.

#### **No. 95**

#### **What Is the Right Antipsychotic? Decision Making Challenges in a Patient With Schizoaffective Disorder and Pituitary Macroadenoma**

*Poster Presenter: Sara Veselinovic, M.D.*

*Co-Authors: Amy Hoffman, M.D., Raj V. Addepalli, M.D., Justin Ross Nathan*

#### **SUMMARY:**

RS is a 67-year-old man with a long history of Schizoaffective Dis, Bipolar Type, requiring multiple past psychiatric hospitalizations, with a past medical history significant for a secreting pituitary tumor removed via trans sphenoidal resection, who presented initially to the Emergency Room in a grossly manic state, with demonstrable flight of ideas, pressured speech, distractibility, grandiosity, paranoid ideation, and circumstantial thought process. He was admitted to the in-patient psychiatric unit for management of acute mania in the context of medication non-compliance for several weeks. However, patient continued to demonstrate poor insight into his psychiatric condition and a significant mistrust and/or fear of his psychiatric medications. After a few days of initial medication refusal, he agreed to commence a regimen of valproate 1000 mg/day and olanzapine 5mg by mouth at nighttime, which was discontinued at the time of discharge, hormonal replacement of levothyroxine 75 mcg/day, hydrocortisone 25 mg/day in divided doses, and androgen gel 1% after consultation with the endocrinology team. He was switched to aripiprazole in view of its partial agonist activity at the D2 receptors and its propensity to cause minimal prolactin elevation. (1) Over span of two weeks, RS's symptoms improved drastically and at time of discharge appeared at his baseline. Prior to discharge, he agreed to receive aripiprazole long acting injectable 300mg. RS's case was unique due to the challenge of choosing antipsychotic medications in a manic patient post-pituitary resection, given that most antipsychotics cause elevation of prolactin by virtue of their D2 receptor binding properties. (2) Considering that he was highly non-complaint with oral medications in the community, choosing an antipsychotic would have to keep in mind its availability as a long acting depot formulation. In other words, it became essential to consider the differential effects seen in different anti-psychotics on the tuberoinfundibular pathway, the pathway by which dopamine regulates the levels of prolactin released from the anterior pituitary gland, for fear of inducing lactotroph (prolactin-secreting cells) proliferation in a pituitary gland susceptible to tumorigenesis. (2) Aripiprazole has been shown to cross the blood brain barrier more readily and

dissociate more rapidly from the dopamine receptor, reducing the probability of hyperprolactinemia – and tumor resurgence in this case. (2) Our choice of aripiprazole has been validated in a well-reviewed meta-analysis of being the first choice to be considered for lowering prolactin concentrations in patients with a psychotic disorder and hyperprolactinemia. (3)

**No. 96**

**WITHDRAWN**

**No. 97**

**Workshop-Based Peer Support Model for College Students With Serious Mental Illness**

*Poster Presenter: Cameron B. Fattahi, B.S.*

*Lead Author: Xiaoduo Fan, M.D.*

*Co-Authors: Maite Cintron Pastrana, M.D., Kenny Kah-Keng Leng, M.A., B.A.*

**SUMMARY:**

**Background:** Psychiatric disorders are disorders of young adulthood, with three-quarters of all cases presenting in the early twenties, coinciding with the typical age of college enrollment.<sup>1</sup> More than 20 million students enrolled in colleges across the US have utilized college mental health services. However, most college campuses stand unequipped to detect and deal with serious mental illness (SMI) including schizophrenia, bipolar disorder and major depressive disorders among students.<sup>2</sup> Delayed recognition, intervention, and engagement impact the academic performance, work activities, and interpersonal relationships of college students with SMI, contributing to higher educational discontinuation rates.<sup>2</sup> Implementation of interventions among college students to increase early detection, education, and intervention of SMI is critical to reduce the perceived stigma and the dropout rate among students with SMI.<sup>2</sup> Youth-initiated peer mentoring programs have demonstrated lasting impacts for college students with SMI.<sup>3,4</sup> Here, we present a unique community mentoring program that aims to provide young people who experience mental health challenges with community-based education and support to empower them to act as primary participants through their journey of recovery. Our program

utilizes young student volunteers passionate about promoting mental health awareness and knowledge about community resources; some with their own lived experiences with mental illness who will lead a series of workshops to aid students with SMI in their everyday life struggles. **Objectives:** 1) Promote treatment-seeking behaviors in college students with SMI, 2) Improve insight and reduce stigma regarding severe mental illness in college campuses, 3) Increase students-to-student associations between students and their peers with SMI, 4) Foster lasting connections between young adult students and peer students who experience mental health challenges.

**Methods:** This program is structured around a six-month educational period for mentees where mentors and mentees will meet every other week to focus and learn about a new topic regarding coping skills, social skills, health, wellness, and vocational training to help mentees develop necessary skills of self-advocacy amongst themselves. This program aims to help mentees achieve their personal and career goals while developing and maintaining a healthy support system by utilizing available resources in the community. Data in the form of subjective descriptive feedback will be recorded periodically from participants, with no personal identifiers recorded or stored. **Anticipated results:** Program participants will feel comfortable engaging in peer-level group-based workshops, allowing them to make personal improvements in critical areas of potential deficit, including educational attainment, employment, financial independence, social skills, and healthy living. Participants will form lasting connections with their student mentors.

**No. 98**

**Worsening Paranoia in a Patient With Schizotypal Personality Disorder and COVID-19**

*Poster Presenter: Christine Whitehead, D.O.*

*Co-Authors: Adam Fusick, Steven Gunther, Laura Beatriz Colón Rivera, M.D.*

**SUMMARY:**

The emergence of the coronavirus disease 19 (COVID-19) pandemic has brought many challenges and discoveries. As more is being learned about acute treatments, attention is being shifted now to long term sequelae associated with the virus. Albeit

primarily a respiratory illness, it is clear the potential impact of this virus is not limited only to pulmonary function. Here the authors present the case of Mr. X and highlight what is known about the psychological and psychosocial impact of COVID-19 as well as provide theoretical mechanisms as to how the inflammatory cascade triggered by the virus can potentiate neuropsychiatric symptoms. Mr. X, a 42-year-old Hispanic unmarried male with no psychiatric history, substance abuse, or history of violence, was brought to the hospital by family members who had concern for worsening paranoia and violent behavior. He was incidentally found to be COVID positive and, despite being asymptomatic with elevated IgG, Infection Control recommended that he be admitted to the medicine service. Psychiatry was consulted after an involuntary psychiatric hold was placed in the Emergency Department. Upon evaluation, patient demonstrated evidence of schizotypal personality disorder as well as troubling prominent persecutory delusions. Patient was recently briefly incarcerated for violent behavior and was released after family posted bail. He was then promptly taken to the hospital where family confirmed the delusional thought process was new for the patient. Delusions continued in the hospital while efforts were made to rule out organic causes of psychosis. Physical exam and lab work were unremarkable with only mild vitamin deficiencies. Otherwise, no evidence for other nutritional deficiencies, thyroid dysfunction, HIV or syphilis infection, or recent substance use. MRI brain and EEG showed no abnormalities. Given his benign medical workup and psychiatric history, this led to the concern that the patient's psychotic symptoms were secondary to COVID-19. Patient was ultimately admitted to the inpatient psychiatric service. Our case adds to the growing body of literature that shows the potential for the emergence of psychotic symptoms in the context of COVID-19. Specifically, the case of Mr. X shows the impact of COVID-19 on the psychopathology of a patient with schizotypal personality traits leading to the exacerbation of thought disorder and a new diagnosis of persecutory delusional disorder. Exact mechanisms detailing COVID and neuropsychiatric sequelae remain theoretical but are reviewed by the authors here. Unfortunately, patients with mental illness are known to be at higher risk for developing infectious

diseases due to impaired risk perception, reduced concern for personal hygiene, lower vaccination rates, and difficulty adhering to social distancing guidelines. Ultimately, this case may inform the medical community to be aware of the emergence or worsening of psychiatric symptoms in the context of COVID-19.

#### **No. 99**

#### **“Military Brats” and Mental Health: A Brief Review of the Literature**

*Poster Presenter: Natalie Picciano, M.D.*

*Co-Author: Rachel M. Sullivan, M.D.*

#### **SUMMARY:**

Children of military service members, often referred to endearingly as “military brats,” are exposed to unique developmental and cultural influences. These include common experiences such as periodically changing school and home environments or having a parent leave for deployment. Most children are resilient to such a fluid social milieu, though odds of reported depressive and other behavioral symptoms are often increased among some children. Children's home and social environments may also be influenced by a parent sustaining combat injury or mental illness. In more severe cases as these, children's risks of mistreatment, neglect, and abuse have been demonstrated to increase compared to peers. This creates a broad variety of experiences within a military child's family of origin that may contribute to mental illness. Such unique determinants of wellbeing require special consideration from physicians caring for the mental health of children of service members. This study aims to present a scoping review of available literature documenting the mental health outcomes associated with being a military brat in order to present a cohesive understanding of how best to appreciate and respond to military brats' unique social influences to their mental health.

#### **No. 100**

#### **To Help Children Fight a Monster, You Need to Speak Their Language: Creating a Children's Animated Ebook in Spanish Addressing PTSD**

*Poster Presenter: Brenda Cartujano Barrera, M.D.*

*Co-Authors: Lisa Fortuna, April Seay, M.D.*

**SUMMARY:**

Background: Latinos are the largest minority group in the United States, with unique challenges that make them vulnerable to experience traumatic events, high levels of poverty, racism, limited access due to language barriers<sup>1</sup>. According to the National Intimate Partner and Sexual Violence Survey, in the United States, 13.6% of Hispanic women were raped and 35.6% of experienced sexual violence other than rape during their lifetime. Limited mental health (MH) services in Spanish, especially for children, increase the lasting effects of traumatic experiences in this community. Educational materials are lacking, despite increasing interest<sup>2</sup>. Digital media and animated books for non-English speaking children are better received than traditional means, as they decrease the need of having an adult trying to engage them in the lecture and are easily distributed.<sup>3</sup> Latinx pediatric population preferring Spanish media report less emotional health literacy and more stigma towards mental health, potentially related to the lack of information in Spanish<sup>4</sup>. Also, it has been shown that literature can reduce the stigma of mental illness by normalizing it, and it can help to break stereotypes.<sup>5</sup> Methods: This is a SAMHSA funded project part of the APA Diversity Leadership consisting of an e-book for caregivers of children with a history of trauma. The e-book, targeted for 6–12-year-olds, was developed with consultation from experts in the field and reviewed by editors for plain language and accuracy. The “hero” was chosen after surveying children in our community clinic (5 characters were presented to 18 children, 16 of which voted for “Pancho”). Result: The creation of the book “La valentía de Pancho” (“Pancho’s bravery”) was completed and is currently in the process of being uploaded and disseminated. The story talks about a puppy who was exposed to a traumatic event and is navigating the difficulties of talking about it and asking for help. His parents take him to see Dr. Flatface (a pug child psychiatrist) who provides treatment leading to symptom improvement. At the end of the book, there is a section for caregivers with common Q&A, including definitions of trauma, the difference between psychiatrists and psychologists, and how to navigate the health system to get access to a mental health care provider. Data collection on the number of

downloads and utilization is ongoing. The book will also be part of the TF-CBT group mentioned above. Discussion: Contributing to the repertoire of digital media available for limited English proficiency populations is a goal within the reach of mental health providers, especially trainees showcasing their commitment and creativity. It can have a tremendous impact delivering a message/story to educate about MH and available supports. Using these accessible and affordable/ free methods to reach communities can lead to the normalization of emotional difficulties and receiving MH treatment.

**No. 101****Changes in Acute Psychiatric Care Utilization After Participation in an Intensive Outpatient Program for Patients With Posttraumatic Stress Disorder**

*Poster Presenter: Nathan W. Lingafelter, M.D.*

*Co-Authors: Julia Wei, Matthew Hirschtritt, M.D., Alexander Altman, M.D.*

**SUMMARY:**

Background: Post-traumatic stress disorder (PTSD) is among the most common psychiatric disorders and is associated with high levels of impairment as well as high costs within healthcare systems.<sup>1,2</sup> Intensive outpatient program (IOP) treatment is associated with PTSD symptom reduction among veterans.<sup>3,4</sup> However, less is known regarding the impact of IOP on acute psychiatric care use patterns. Additionally, there is a relative lack of research investigating treatments for PTSD in non-veteran and racially diverse patient populations. Objective: To examine the association between IOP participation and inpatient psychiatric as well as mental health-related emergency department (ED) encounters among patients with PTSD. Methods: In this retrospective, data-only study we used electronic health record data among Kaiser Permanente (KP) Oakland patients with PTSD and who participated in the KP Oakland IOP =1 time between 1/1/2017-12/31/2018. We compared mental health-related ED visits and inpatient hospitalizations in the 12 months preceding and following the first IOP episode in the study period. Results: Among 256 patients, 82.6% were women and 17.4% were men. Mean (SD) age was 39.3 (14.0) years. 44.2% of participants were non-Hispanic white; 27.1% non-Hispanic Black; 7.0%

Asian, 14.0% Hispanic, any race; and 7.8% other race. The three most common psychiatric comorbidities were depressive (85.3%), anxiety (64.3%), and bipolar disorders (23.3%). In the 12 months before IOP, 28.7% had =1 inpatient psychiatric encounter, compared with 15.9% in the 12 months following IOP ( $p<0.01$ ). Similarly, 24.8% had =1 mental health-related ED encounter in the 12 months before IOP, compared with 18.2% in the 12 months after IOP ( $p=0.04$ ). The mean (SD) number of inpatient psychiatric encounters during 12 months pre- and post-IOP were 0.3 (0.5) and 0.2 (0.5), respectively ( $p<0.01$ ). The mean (SD) number of mental health-related ED visits during 12 months pre- and post-IOP were 0.5 (1.3) and 0.3 (1.0), respectively ( $p=0.03$ ). Conclusions: These findings suggest that IOP treatment is associated with reductions in inpatient psychiatric hospitalizations and mental health-related ED visits among patients with PTSD. Further study is needed to characterize whether these findings are applicable to other practice settings (including virtual treatment programs), the long-term durability of these findings, and whether similar patterns of reduced resource use extend to non-mental health specific care utilization.

## No. 102

### Cross Sectional Mixed Method Survey Study on Prior Authorizations

Poster Presenter: Kunal Ashwin Chaudhary, D.O.

Co-Authors: Jerica Gerena, D.O., Christopher John McCarthy, M.D., Howard C. Levin, M.D.

#### SUMMARY:

**Background:** Insurance companies argue the benefits of prior authorizations (PA). Many providers believe that PA delay access to treatment. Studies have found 90% of providers feel the burden of PA has risen significantly in the last 5 years. PA have led to treatment abandonment, poor clinical outcomes, and serious adverse events. The PA process has been estimated to cost \$31 billion annually, when converting time spent to US Dollars. **Methods:** A 44-question survey regarding the PA process and its burden on staff and patients was sent to ambulatory practices within a large hospital network using REDCap, a HIPAA-compliant web platform to build

and manage surveys and data. Survey questions outlined demographics, reasons for PA, number of prescription PA completed, percentage of approvals, appeals for denial, methods to appeal, subjective burden on staff and patients, and delays in care. Participants were asked to provide an intervention that increased efficiency. Survey data was presented as plots, bar graphs, and open text responses.

**Results:** 52 surveys were completed; 17 from primary care and 35 from specialty practices. The average number of prescribers was 8 and the median was 5. The average number of work hours per week devoted to PA was 7.29 and the median was 1.25. The most common staff type completing PA was medical assistants (76.9%) then medical receptionists (26.9%). The least common was physicians/advanced practitioners (17.3%). Most frequently, 2-3 staff were involved. The most common reason for a PA is non-formulary medication. Most offices process 5 or fewer PA per week (36.5%), others process 21 or more per week (28.8%). For most practices, the wait time was 3-5 days (57.7%) for PA decisions. Most offices rated PA burden as high or extremely high (75%). PA have increased at most offices (90.4%) somewhat or significantly over the past five years. Most offices feel it is somewhat or extremely difficult to determine if a medication requires a PA (82.7%). Five surveyed offices (9.6%) reported that a PA resulted in an adverse clinical outcome. Most offices (75%) reported stable patients needing to switch medications due to their health plans. Over 50% of PA were approved initially, and 25% of denials were appealed. It was reported that additional medical information is very often required to appeal initial PA denials. The most recommended intervention was the use of CoverMyMeds or Navinet.

**Conclusion:** Overall, the results show that the PA process is a strain on outpatient offices, in terms of both time and money, and has resulted in adverse outcomes. Our results are comparable to other studies that assessed the burden of PA on healthcare practices. The burden of PA continues to increase over the years. Patients endure a significant wait time, an average of 3-5 days, before receiving necessary medical care. Limitations of the study include small sample size and difficulty obtaining precise data due to the nature of multiple-choice surveys.

**No. 103****Improving Buprenorphine Usage on a Psychiatric Consultation—Liaison Service: A Resident Quality Improvement Project**

*Poster Presenter: Blake M. Bourgoyne, M.D.*

*Co-Authors: Alex Cashman, M.D., Thomas Ritcher, D.O., Ll. Tynes, M.D., Ph.D.*

**SUMMARY:**

The quality improvement (QI) curriculum in our Psychiatry residency at Our Lady of the Lake Hospital (OLOL) in Baton Rouge was recently revamped. The residents were split into groups to develop projects that would lead to measurable improvements in health care services and the health status of targeted patient groups. Our QI group's aim was to improve the use of buprenorphine on the psychiatric consult-liaison (CL) service. During a 4-week period of pre-intervention data gathering, residents on the CL service were approached by a QI group member after each initial assessment and asked if the patient was a candidate for buprenorphine. Residents identified 12.8% of patients as candidates. After reviewing the charts of the patients who were assessed, we found that less than half of patients with an opiate/polysubstance abuse history (41%) were identified as candidates and concluded that residents should likely have been identifying more patients who would benefit from buprenorphine. We chose to introduce a validated screening tool to aid the residents in identifying buprenorphine candidates, as no screening tools were used during the pre-intervention period. A literature review produced three evidence-based screeners that could be used by the residents: DAST-10, RODS, and SDS. A template was put into the initial electronic note used by the CL residents which prompted the use of a screener if the patient answered in the affirmative to "Have you used an illegal drug or a prescription medication for non-medical reasons in the past year?". During the first month of post-intervention data gathering, 50% of the patients seen on the CL service had the template utilized in the initial assessment, with 14% receiving a validated screener. During this first Plan-Do-Study-Act (PDSA) cycle, focus was placed solely on implementing the template, and residents were not asked if the

patients would benefit from buprenorphine. Thus, we were unable to evaluate if the use of screeners led to finding more buprenorphine candidates. Another concern was the significant decay of use of the template over time, with 69% of notes in the first half of the month having the template, but only 36% in the second half of the month, and 0% in subsequent months. Our next PDSA cycle has begun with the goal to identify 100% of buprenorphine candidates by using a revised template that addresses these weaknesses. In the current PDSA cycle, we changed the template to address the residents' concern that too many patients require them. The revised template adds an option to defer use of the screener if clinical interview is sufficient to identify a candidate. Another addition to the template was a question asking if the patient would benefit from buprenorphine, to allow for evaluating whether the use of the screeners leads to the identification of more candidates. With these improvements, we hope to show this strategy to be effective and easy to implement in other services in the hospital.

**No. 104****Mindfulness Curriculum on an Inpatient Child Psychiatric Unit: A Case Series**

*Poster Presenter: Seth J. Kalin, M.D.*

*Co-Authors: Anna Margaret Pitts, Tanja Seifen*

**SUMMARY:**

**Background:** Children with a history of trauma are more likely to experience emotional behavioral dysregulation (EBD) which can manifest as opposition, defiance and violence. There is increasing evidence that behavioral intervention techniques, including mindfulness, can improve EBD and reduce resulting consequences (i.e. restraints, seclusions and PRN medications). Limited data exists on the success of mindfulness interventions in the acute inpatient child psychiatric population. The goal of this case series was to implement a mindfulness curriculum for this population to improve trauma-informed care and related EBD. **Methods:** Participants in the case study consisted of an 11-year-old female and 10-year-old male with a history of trauma and EBD who were hospitalized on an inpatient psychiatric child unit. Each underwent daily



15-minute mindfulness sessions over a 5-day period during admission. Mindfulness practices consisted of meditation, yoga, mindful eating, and breathing techniques. Each scripted session included a mindfulness discussion followed by an interactive practice video freely available online. Before and after the intervention, participants completed the Revised Children's Anxiety and Depression Scale (RCADS-25) and Mindful Attention Awareness Scale modified for Children (MAAS-C). They rated their mood on a scale from 1 (extremely low) to 10 (extremely high) before and after each session. Patients also answered open-ended questions exploring their understanding of mindfulness before and after the curriculum. **Results:** On the RCADS-25, both patients reported symptoms below the clinical threshold pre and post-intervention. The MAAS-C showed both patients reported a slight decrease in, but overall high levels of mindfulness. Mood ratings were increased after each session. Open ended questions suggested baseline understanding of mindfulness and meditation post curriculum i.e., "Breathing & calming down especially when you are really mad." The 10-year-old male spent 45 days on the psychiatric inpatient unit and had no seclusions during the first half of admission, which included participation in the mindfulness sessions. In contrast he required six seclusions during the second half of his stay during which time there was no daily mindfulness activity. **Conclusion:** A mindfulness curriculum was developed and implemented on an inpatient child psychiatric unit to improve trauma-informed care. Qualitative data showed participants enjoyed the activities. They reported an increase in mood ratings and subjective understanding of mindfulness. Quantitative results showed no change in levels of mindfulness or emotional well-being. One participant had notable reduction in EBD related seclusions during and for two weeks after participating in the curriculum. Further studies will include a greater sample size and the addition of a control group to determine the benefits of this mindfulness intervention for the inpatient psychiatric child population.

**No. 105**  
**WITHDRAWN**

**No. 106**  
**Social Determinants of Mental Health: What Are Their Roles in Preventive Psychiatry?**

*Poster Presenter: Margaret Yau*  
*Co-Author: Jeannie Lochhead*

**SUMMARY:**

Mental illnesses are highly prevalent worldwide and significantly contribute to the global burden of disease. Mental illness prevention, which is a sustainable way to reduce the high burden of mental illness, is a public health priority. One promising population-based, public health approach in mental illness prevention is targeting social determinants of mental health, which are root causes of mental illness driven by unequal distribution of resources and opportunities in the society. In this poster, we will first provide an overview of the field of preventive psychiatry, which has the aims of mental illness prevention and mental health promotion, as well as the major frameworks of mental health preventive interventions. We will then review major frameworks of social determinants of mental health and examine the roles that social determinants of mental health play in preventive psychiatry. We will review selected examples of preventive interventions targeting specific social determinants, including: anti-racist mental health care (racism), coping skills and parenting practice (childhood adversity), primary healthcare co-located debt advice services (financial strain), Housing First (homelessness), integrated mental health and disaster preparedness intervention (natural disasters), and the Olweus Bullying Prevention Program (bullying).

**No. 107**  
**Spill the Tea on 5-HT: A Case of Recurrent Serotonin Syndrome in the Setting of Ketamine and ECT**

*Poster Presenter: Aniruddha Deka, M.D.*  
*Co-Authors: Neha Sharma, M.D., Tirsit Berhanu, M.D., Jonathan Louis Kaplan, M.D.*

**SUMMARY:**

**Background:** Serotonin (5-HT) syndrome (SS) consists of mental status, autonomic and neuromuscular changes [1]. Hunter and Sternbach's criteria are used to diagnose SS [2,3]. Serotonergic

pathways have been implicated in the mechanism of action of electroconvulsive therapy (ECT), though this is not well understood [4]. Ketamine has been used as an induction agent in ECT and in the treatment of treatment-resistant depression (TRD). We describe a case of recurrent SS following administration of ketamine for ECT. **Case Summary:** Ms. A is a 78-year-old woman with hypothyroidism, hypertension, hyperlipidemia, neurocognitive disorder and TRD requiring ECT. After two unsuccessful attempts at obtaining an optimal seizure, the induction anesthetic was changed to ketamine. After ECT, she developed fever, altered mental status, hyperreflexia and increased tone consistent with Hunter and Sternbach's criteria for SS. The etiology of SS was thought to be her antidepressants (duloxetine & mirtazapine), which were held. The SS resolved with supportive measures. Five months later, she underwent another ECT series due to worsening depression. Ketamine was used again leading to recurrence of SS. There had been no preceding changes to her antidepressant (duloxetine). She responded to lorazepam and supportive measures. The etiology of recurrent SS was attributed to the combination of ketamine and ECT. **Discussion:** Ms. A developed SS on two occasions under similar circumstances. In our literature review, we found five cases linking ECT to SS and one linking ketamine to SS [5-10]. There is emerging evidence that the mechanism of ECT involves 5-HT<sub>1A</sub> and 5-HT<sub>2A</sub> receptors [4], the same receptors which are involved in SS [1]. ECT can transiently increase permeability of the blood-brain barrier which can lead to increased levels of antidepressants in the brain [5,11]. Through these two mechanisms, ECT enhances 5-HT transmission and the likelihood of SS in the presence of serotonergic agents. Based on PET studies, ketamine's effect on 5-HT transmission is mediated by the glutamate AMPA receptor. Ketamine increases AMPA activity in the medial prefrontal cortex which leads to downstream 5-HT release via glutamate [12,13]. Through this mechanism, ketamine can increase 5-HT transmission leading to SS. To our knowledge, this is the only case report of recurrent SS with concurrent use of ECT and ketamine. As ketamine is frequently used in ECT and many patients undergoing ECT are on serotonergic medications, it is important to recognize ketamine as

a potential risk factor for SS. There is a lack of evidence for added efficacy when combining ECT and ketamine [14,15]. Thus, one should proceed with caution when combining these treatments. The burgeoning use of ketamine in ambulatory settings makes it necessary to elucidate the risks, which we discuss further. More research is needed into the mechanisms of ketamine and ECT, specifically how the combination of these treatments influence 5-HT.

#### **No. 108**

#### **The Price of Matriculation: Mental Health Disparities Among African American, Asian American, LGBTQ+ and Female Medical Students**

*Poster Presenter: Sabine Nouredine*

*Lead Author: Sebastian Acevedo*

*Co-Authors: Zeshawn Ali, D.O., Daniella Colombo*

#### **SUMMARY:**

Background: With the increasing challenges of medical school matriculation, student physicians report more psychological stress compared to peers their age. Historically, students identifying as a marginalized minority are more likely to report a higher mental health burden, compared to their counterparts. This increased mental health burden can be explained by the theory of minority stress, which attributes the mental health burden to toxic stress caused by systemic prejudice, biases, and rejections (1). The aim of the study is to elaborate on current findings regarding mental health disparities faced by marginalized medical students, and to increase awareness of the impact mental health disparities can have on marginalized medical students, namely African American, Asian American, female, and LGBTQ+(Lesbian, Gay, Bisexual, Transgender, and Queer) students. Methods: A PubMed literature review was completed by searching the terms "medical students," "mental health," and "disparities. Articles discussing and comparing marginalized (African American, Asian American, Transgender, and LGBTQ+) medical students' mental health to their peers were summarized. Results: The search results included six peer-reviewed articles. The CHANGE study found that both African American and female medical students were more likely to demonstrate symptoms of both depression and anxiety when evaluated

using a validated questionnaire. Evaluation of Psychosocial resources showed African American students as having an 83% greater risk of low social support (2). Results further showed that African American Medical Students who viewed their racial identity as more central to who they are were more likely to experience depression and anxiety symptoms (2). A separate article revealed that South Asian American medical students endorsed symptoms of depression more often than East Asian American medical students and female-identifying medical students were more likely to endorse symptoms of depression than male-identifying medical students (3). Finally, an article elaborated upon the historical disparities in mental health burden among the LGBTQ+ community including, but not limited to, increased rates of suicide attempts, substance abuse, and mood disorders in comparison to the majority population (1). Conclusion: With the increasing social, personal, and mental challenges faced by matriculated medical students, it is crucial to consider the particularly complex mental health challenges faced by students identifying as an underrepresented minority. It would be beneficial for both students and administrative staff to keep these challenges in consideration while planning and completing curricula. Additionally, it would be important to assess the mental health challenges faced by the Latinx population. Mental health equity among the student physician community should be prioritized while developing curricular models focusing on student wellness, and burnout prevention.

#### **No. 109**

##### **Use of Electroconvulsive Therapy for Severe Compulsive Purging: A Case Report**

*Poster Presenter: Michaelyn Everhart, M.D.*

*Co-Authors: Emily Grace Royer, M.D., Erin C. Ranum, M.D., Ashish Sharma*

#### **SUMMARY:**

Miss B., a 22-year-old female with history of bulimia nervosa complicated by a recent cardiac arrest secondary to electrolyte abnormalities, initially presented to the ED with uncontrollable purging and hematemesis. In the setting of recent stressors, the patient was experiencing an increase in compulsions

to repeatedly purge and would request physical restraints to stop herself. She had ten medical encounters in the span of one month, including medical admissions, psychiatric emergency encounters, and medical ED visits. The patient had limited insight and minimal engagement in early interviews, which necessitated symptom-based treatment with a wide initial diagnostic differential. Consistent treatment with oral medications was complicated by purging behaviors and by the patient's desire to leave after even minor symptom improvement. After one month of repeated hospital encounters, the patient required another medical admission for management of severe electrolyte disturbances causing acute EKG changes. Due to the severity of her symptoms and failure of other treatment options including initiation of liquid fluoxetine, electroconvulsive therapy (ECT) was started with consent from her temporary guardian. After four ECT treatments, Miss B. had sustained time without purging and no longer required physical restraints or injection medications. Concurrent to undergoing ECT, the patient was titrated up to 80mg of liquid fluoxetine daily with the provisional diagnosis of severe obsessive-compulsive disorder with self-harming compulsions. She was ultimately discharged after sustained remission of purging behaviors for over two weeks. Her discharge regimen included liquid fluoxetine 80mg daily, olanzapine 5mg at night, and a plan for weekly maintenance ECT as well as weekly psychotherapy.

#### **No. 110**

##### **Utility of Pharmacogenetic Analysis in Psychiatric Clinical Practice: A Case Report**

*Poster Presenter: Kareem Seoudy, M.D.*

#### **SUMMARY:**

**Introduction:** Psychiatric readmissions negatively impact patients and their families while increasing healthcare costs. Significant relationships exist between smoking and readmission for patients with psychiatric illness. (Kagabo, 2019) Cigarette smoking induces the activity of cytochrome P450 (CYP) 1A2 (via chemicals in cigarette smoke such as polycyclic aromatic hydrocarbons) and CYP2B6. These enzymes metabolize several psychotropic

medications including antipsychotics, antidepressants, and benzodiazepines. In this case report we discuss the importance of considering the patient's smoking status when choosing antipsychotic medications with guidance from psychotropic pharmacogenomics testing. **Case Report:** We present the case of a 28 years old male with a psychiatric history of schizoaffective disorder who presented to the emergency department with command auditory hallucinations and was subsequently admitted to the inpatient psychiatric unit. This was the 5<sup>th</sup> admission in 1 year, with the longest period between those readmissions being 3 weeks. It appeared that during all of these admission the patient had remission of psychotic symptoms prior to discharge and relapsing 1-2 weeks after discharge. During those admissions the following antipsychotic medications were tried: Fluphenazine – Quetiapine – Haloperidol – Olanzapine. The decision was made to get pharmacogenomics testing given that he failed multiple psychotropic medications. Psychotropic pharmacogenomics showed that the patient is a rapid metabolizer of the following cytochromes substrates (CYP1A2, CYP3A5) it also showed reduced MTHFR enzyme activity. After reviewing the results, medication history and tobacco use history we concluded that all the antipsychotic medications that the patient received previously are mainly metabolized by cytochrome CYP1A2. The patient resumed smoking after each discharge at the rate of 2-3 packs per day. Tobacco induces CYP1A2 which he's already a rapid metabolizer of its substrates likely resulting in reduction of antipsychotics plasma level and recurrence of psychotic symptoms. Given that the patient was not interested in quitting smoking and planned to resume smoking upon discharge, the decision was made to switch the patient to Aripiprazole that resulted in remission of psychotic symptoms. He was also started on Methylfolate which resulted in remission of depressive symptoms. **Conclusions:** These results highlight the importance of considering the patient's smoking status when choosing antipsychotic medications and the utility of clinical pharmacogenomics studies as a tool for choosing psychotropic medications and reducing costs of mental health care.

## No. 111

### **Bedside Chats: A Scalable Tool to Enhance the Physician-Patient Relationship**

*Poster Presenter: Nadav Kalil Klein, M.D.*

#### **SUMMARY:**

**BACKGROUND** The physician-patient relationship has been compromised by many competing factors. Our novel solution utilizes a card deck, with each card containing a different question encouraging patients and clinicians to engage in clear and effective communication. **OBJECTIVE** To enhance bedside doctor-patient communication skills, increase fulfillment of resident physicians, and improve patient satisfaction. **METHODS** This was an IRB approved prospective study conducted between August and November 2020 within the Internal Medicine, Neurology, Psychiatry, and Emergency Medicine departments at The Ohio State University. Residents conducted 2-4 card driven patient interactions during their rotation. The Self-Efficacy Questionnaire (SE-12) and Professional Fulfillment Index (PFI) were used to assess clinical communication skills and physician fulfillment, respectively, at day 0, 15, and 30. Patient experience was evaluated through a one-page survey. Linear mixed effects regression was performed to identify an association with card deck utilization with an improvement in aforementioned scales. **RESULTS** Initial resident enrollment rate was 69% (n = 20/29). A total of 12 residents and 37 patients completed the study and were eligible for final analysis. Regression analysis for the SE-12 resident questionnaire revealed generally higher scores for days 15 and 30 compared with day 0, identifying an improvement in resident perceived communication skills. No statistically significant change was seen in PFI scores. Patient experience surveys yielded an average score of 4.9 out of 5 with positive sentiments in qualitative assessment. **CONCLUSION** This study demonstrated that the card deck intervention improved resident communication skills and enhanced patient experience. There is a upcoming follow up study of similar design that will be completed between August 2021 and April 2022 with a total of 40 residents and 160 patients.

**No. 112**

**Together we RISE: Novel Workshop on Asian American and Pacific Islander History and Mental Health at a Psychiatry Residency Program**

*Poster Presenter: Nancy Mylan Dong, M.D.*

*Lead Author: Maia L. Ou, M.D.*

*Co-Authors: Cathy K. Ng, M.D., Melissa Beattie, M.D.*

**SUMMARY:**

**Background:** In the context of the COVID-19 pandemic, there has been a rise in anti-AAPI (Asian American and Pacific Islander) violence in the United States, with 9,081 hate incident reports from March 19, 2020, to June 30, 2021. New York had the second highest number of reports with 1,453 incidents (16%). In response to this and the 2021 Atlanta shootings, members of RISE (dismantling Racial Injustice and promoting Systemic Equity), a resident-run anti-racist organization at the Zucker Hillside Hospital (ZHH) Psychiatry Residency Program, mobilized to educate physicians about AAPI history and mental health. A novel workshop was developed to: (1) improve awareness of the historical context of AAPI communities, (2) deepen understanding of the model minority stereotype, and (3) build comfort in discussing the silencing of and violence towards AAPI communities amongst psychiatry residents. To our knowledge, no prior ZHH didactics address AAPI topics. **Methods:** In April 2021, residents of RISE researched, developed, and delivered a two-hour workshop consisting of a 40-min didactic on AAPI history followed by three breakout discussion rooms that covered topics including the invisibility of the AAPI community, the model minority myth, and the AAPI experience in the context of COVID-19. Anonymous pre- and post-surveys consisting of three Likert items were disseminated to all 51 resident participants to assess confidence and comfort in understanding and discussing these issues. Responses were dichotomized and analyzed using Fisher's exact test. **Results:** 31 responses to the pre-survey and 16 responses to the post-survey were collected. Respondents reported improvements in confidence in understanding the historical context and diversity of AAPI communities with 12.9% of residents in the pre-survey (n=31) and 56.3% in the post-survey (n=16) reporting being quite or extremely confident (p-value = 0.0043). Confidence in ability to explain the model minority

myth improved with 19.4% of residents in the pre-survey (n=31) and 93.8% in the post-survey (n=16) reporting being quite or extremely confident (p-value < 0.00001). Comfort in discussing the silencing of and violence towards AAPI communities improved with 19.4% of residents in the pre-survey (n=31) and 81.3% of residents in the post-survey (n=16) reporting being quite or extremely comfortable (p-value = 0.0001). **Discussion/Conclusions:** Amongst ZHH psychiatry residents, there was a lack of understanding of the historical context of AAPI communities and the model minority myth, and a lack of comfort in discussing anti-AAPI violence. Educational programming was helpful in improving resident awareness of and comfort around AAPI issues, which is necessary both for providing culturally inclusive patient care as well as a supportive work environment for AAPI trainees and staff. Future directions include longitudinally integrating didactics about AAPI mental health disparities into residency training.

**No. 113**

**An Inflection Point for Video Games in Mental Health: A Call to Action**

*Poster Presenter: Varun K. Thvar*

*Co-Authors: David Dupee, M.D., M.B.A., Nina Vasan, M.D., M.B.A.*

**SUMMARY:**

**Background:** 97% of children and adolescents play video games for at least one hour every day. Even though there is zero research to establish any causal or correlative connection, the media and political pundits often suggest video games lead to violence or antisocial behavior and use it to deflect blame for mass shootings and brutality. After a year, when video game use increased as a coping tactic to deal with isolation and the mental health sequelae of Covid-19, we sought to study the positive advantages video games could make on mental health with regard to engagement and treatment. **Methods:** We conducted a literature review of research articles from 2010-2021 with the following MeSH terms: "video game", "mental health", "depression", "anxiety", "treatment". **Results:** Our analysis spans 42 articles and 7 video games. We found that over 95% of homes with children under

the age of 18 have a device for playing video games. Around 94% of children aged between 6 and 15 and 90% of people aged 16 to 25 play video games. Previous research has shown that playing video games can help with reduction in stress and depression, enhancing cognitive attention and memory, reducing anxiety, and even potentially reducing PTSD. In COVID times, video games have been shown to help alleviate symptoms of loneliness and depression. However, uncontrolled and excessive video gaming can be harmful. Conclusion: Survey of existing research has identified evidence suggesting that video games allow players to create profound, meaningful experiences in a virtual setting and improve their social wellbeing. The rise of games explicitly created for therapeutics, also called “serious” games, are becoming more prevalent and, “can now be considered as an innovative adjunct or alternative in the treatment and prevention of child and adolescent depression and anxiety disorders” (Zayeni et al.). In moderation, video games have the potential to be low-cost, high-access, and high-scale treatment modalities. Previous research into video games was very challenging to assess because, when attempting to evaluate a video game for a specific condition, there are only two options – choose an existing video game and look for conditions that might benefit, an exercise of combinatorial complexity; or build a video game for a condition, an exercise of software complexity. Recent advances in video game platforms have made it possible to create video games customized to specific conditions without having to build out and manage the software infrastructure, a potential inflection point in the application of video games in mental health. In the internet age, we need different tools to engage with the internet generation, and video games provide an appealing medium. This poster is a call to action for exploring new hypotheses with video games now possible with advances in customizing video game platform technology.

**No. 114**

**Beyond the Puzzle Piece: Expanding Autism Acceptance in Psychiatry Through Symbolism and Education**

*Poster Presenter: Pallavi Tatapudy, M.D.*

*Co-Authors: Ava Gurba, Kevin Carroll, Michelle Ballan*

**SUMMARY:**

Background: Autism Spectrum Disorder is a neurodevelopmental disability impacting 1 in 44 individuals<sup>1</sup> that affects communication, social interactions, sensory processing, motor skills, and cognition<sup>2-3</sup>. Autism symbology has a complicated history. The puzzle piece symbol is often associated with incompleteness, unsolvability, and isolation<sup>4-6</sup>; has been shown to evoke negative associations in the general population<sup>7</sup>; and is linked to organizations that much of the autistic community considers unrepresentative of their needs<sup>5</sup>. Within the autistic rights and neurodiversity movements<sup>8-10</sup>, autistic individuals have begun to represent pride in their identity through the infinity symbol<sup>11</sup>. Unpublished pilot studies exploring symbol preference found that more than 80% of autistic individuals disliked the puzzle piece, while 70% preferred the rainbow infinity for neurodiversity acceptance<sup>11</sup>. Building on this momentum and aligned with the mantra, “Nothing about us, without us,”<sup>12</sup> our interdisciplinary team aims to highlight the informed experience and lived narratives of autistic individuals and improve psychiatric competence by implementing lasting structural change through the federally funded Leadership Education in Neurodevelopmental and Other Related Disabilities (LEND) network. **Methods:** The expanded prospective survey will acquire data from approximately 300 self-identified autistic individuals with a range of speaking abilities, who will rank symbols based on preference. Survey dissemination will be through newsletters and listservs run by autistic organizations. Educational materials consistent with LEND Maternal and Child Health core competencies will be implemented through an actionable initiative involving LEND trainees composed of graduate students and professionals from 11 core disciplines. **Results:** As part of the LEND research requirement, study results are expected in Spring 2022. Presentations to the 60 LEND programs will reach about 1000 psychiatry trainees and LEND alumni per year with a primary focus on psychiatry and autism, thereby procuring a baseline level of competency which includes more than 300 hours of clinical, leadership, research, and advocacy training on neurodevelopmental disabilities, to then utilize symbols meaningfully as representations of advanced knowledge and skills to work effectively

with autistic patients. **Conclusion:** LEND, psychiatry programs, and other organizations can use the education training frameworks focused on improving internal awareness, knowledge, acceptance, and insight subsequently paired with distribution of external symbols of support recognized by the autistic community to deliver optimal care and improve autistic patient experiences<sup>13-14</sup>. Future directions include broadening availability of the developed LEND education series founded upon autistic expertise through incorporation into the Psychiatry Grand Rounds Program.

**Sunday, May 22, 2022**

### **Poster Session 3**

#### **No. 1**

#### **Attitudes and Comfort in Clinical Neuroscience Among Psychiatry Residents Before and After Implementation of a New Multimodal Neuroscience Curriculum**

*Poster Presenter: Joshua C. Eloge, M.D.*

*Co-Authors: Faraz Sultan, Eitan Kimchi*

#### **SUMMARY:**

Background: The field of psychiatry is constantly evolving. Neuroscience research focused on understanding psychiatric symptoms and underlying etiologies has dramatically exploded in the past decade. Neuroscience research is now able to shed light on phenomenology commonly encountered by psychiatry residents. Many psychiatry department chairpersons, practicing psychiatrists, and resident physicians in psychiatry agree that neuroscience should be expanded in the common psychiatry residency curricula. For this purpose, there has been an emphasis on developing didactics in psychiatry residency programs dedicated to neuroscience topics. While many residency programs have begun to implement these, what is less known is the effectiveness of different modalities for teaching neuroscience to psychiatry residents. Objective: To examine changes in attitudes and comfort with clinical neuroscience topics and different educational methods among post-graduate year (PGY) 1-3 psychiatry residents undergoing a novel neuroscience curriculum. Methods: Thirty-two hours of a new neuroscience curriculum were delivered to

PGY-1, PGY-2, and PGY-3 psychiatry residents facilitated by two PGY-2 psychiatry residents. These residents utilized the National Neuroscience Curriculum Initiative (NNCI) modules, which feature multimodal educational methods. Results: Nineteen PGY 1-3 psychiatry residents completed a pre-survey before implementation of a new neuroscience curriculum. Eleven of those residents completed a post-survey after its implementation. Our survey results demonstrated that among residents surveyed, there was a statistically significant increase in comfort with self-study materials and role-playing educational modules. There was also a statistically significant increase in resident comfort in talking with other residents about neuroscience topics. When each postgraduate year was analyzed individually, the increased comfort with talking to other residents about neuroscience topics was statistically significant among PGY-1 and PGY-2 residents but not among PGY-3 residents. Our results demonstrated positive changes in specific content areas among PGY-1 and PGY-2 residents. Conclusion: Resident comfort with a variety of neuroscience topics improved, specifically for PGY-1 and PGY-2 residents. We observed a theme of comfort in role-play and talking with other residents about neuroscience topics in these postgraduate years. However, this was not found among PGY-3 residents. This may be a function of PGY-2 residents facilitating these sessions, creating a setting in which senior residents were taught by individuals with less training in psychiatry, or this may be a function of PGY-3 residents only receiving more advanced topics of the neuroscience curriculum. Additional assessment of these trends with more statistical power is warranted to more thoroughly examine the effects of resident-led teaching on psychiatry resident comfort with neuroscience topics.

#### **No. 2**

#### **It's a Man's World, or Is It? Breaking Down Barriers and Biases for Women in Medicine Through a Resident-Led Workgroup**

*Poster Presenter: Ambika Yadav, M.B.B.S.*

*Co-Authors: Mariella Suleiman, M.D., Anetta Raysin*

**SUMMARY:**

**BACKGROUND:** In 2019, women constituted 50.5% of all medical school students. However, they continue to be underrepresented as faculty with the majority being at the instructor rank. Commonly identified barriers to women advancing to leadership positions include the impact of traditional gender roles, sexism in the medical environment, and lack of effective mentors. Several initiatives to tackle these barriers and support women in medicine exist among organizations but vary in structure and approach. These include career development programs, mentoring programs, sponsorship and networking events. Over time, these initiatives have shown to result in a slow but steady increase in the number of women in leadership. **APPROACH:** In order to promote a supportive work environment for women in our residency training program, a similar initiative was proposed. A survey was administered among psychiatry residents to gauge the need for such an initiative in our department and possible focus areas. The survey revealed a demand for endeavors to increase awareness about workplace challenges and biases against women, provide access to mentors, and support-groups for gender-based concerns in the workplace. A workgroup composed of psychiatry residents with support from program leadership was created to address these needs. Interventions that will be implemented through proposals from this workgroup include Grand Rounds and resident educational talks regarding challenges women face in the workplace, experience of female leadership in the department and evidence-based interventions to mitigate these. Additionally, efforts to assess and address the prevalence and nature of gender-based harassment have been proposed which, hopefully, will help provide a safe environment for women. **SCOPE AND OUTCOME:** Future efforts will be geared towards expanding this initiative to psychologists, social workers and nursing staff in the Department, collaborating with other departments hospital-wide, and regional and national organizations. Long-term outcomes anticipated from this initiative include improvement in institutional climate and work satisfaction for women, and increased female recruitment particularly in leadership roles.

**No. 3****Psychological Impact of the COVID-19 Pandemic on Asian Frontline Health Care Workers in New York City**

*Poster Presenter: Celestine He*

*Co-Authors: Alicia M. Hurtado, M.D., Chi Chan, Ph.D.*

**SUMMARY:**

**Background:** The COVID-19 pandemic has caused an immense strain on healthcare workers [1] and systems across the United States [2]. Concurrently, Asians/Asian Americans have faced increased xenophobia because of COVID-19 [3]. This study aimed to elucidate the psychological impact of the COVID-19 pandemic on Asian frontline healthcare workers (FHCW) in New York City. **Methods:** Data were collected from 1,757 FHCWs at Mount Sinai Hospital in New York City between November 19, 2020 and January 11, 2021 using an anonymous, web-based survey. Data from a baseline survey between April 14 and May 11, 2020 were also analyzed. Outcome variables were symptoms of major depressive disorder (MDD), generalized anxiety disorder (GAD), and COVID-19 associated posttraumatic stress disorder (PTSD) symptoms as well as burnout. COVID-19 related exposures, profession, and medical risk were also assessed. Descriptive statistics were conducted, and X2 tests were computed to determine association between race and outcome variables. McNemar's test was performed to compare baseline and follow-up proportions of positive screens. Multivariable logistic regression analyses were conducted to identify factors associated with psychopathology and burnout. **Results:** Of the 1,757 surveyed, 532 (30.3%) identified as Asian, 143 (8.1%) as African American, 131 (7.5%) as Hispanic/Latino, and 951 (54.1%) as White. 237 (44.8%) of Asians screened positive for either MDD (10.9%), GAD (10.5%), PTSD (17.7%), and/or burnout (35.3%). Compared to non-Asians, Asians were more likely to screen positive for PTSD ( $p=0.01$ ) and less likely to screen positive for burn-out ( $p=0.04$ ). Percentages of MDD (23.8% to 10.5%,  $p<0.01$ ), GAD (24.3% to 10.1%,  $p<0.01$ ), and PTSD (25.2% to 15.9%,  $p<0.01$ ) decreased amongst Asians relative to results from a baseline survey taken from April 14 and May 11, 2020. Results of multivariable logistic regressions revealed that perceived high medical risk (*OR for MDD=2.85,*



95%CI=1.23-6.64, p=0.015; OR for GAD=3.39, 95%CI=1.43-8.05, p=0.006; OR for PTSD =2.62, 95%CI=1.33-5.16, p=0.006) and psychiatric history (OR for MDD=2.81, 95%CI=1.38-5.75, p=0.004; OR for GAD=2.58, 95%CI=1.24-5.37, p=0.011; OR for PTSD=2.28, 95%CI=1.21-4.31, p=0.011) were associated with increased likelihood of screening positive for MDD, GAD, and COVID-19 associated PTSD symptoms. **Conclusion:** 44.8% of Asian FHCWs in a large metropolitan city experienced adverse psychological impact during the COVID-19 pandemic, most noticeably PTSD and burn-out. Compared to a baseline survey conducted at the height of the pandemic, the percentage of Asians who screened positive for MDD, GAD, PTSD decreased. Burn-out level remained the same. Perceived medical risk and psychiatric history were linked to increased likelihood of psychopathology. Results of this study provide preliminary data on the psychological impact of COVID-19 on Asian FHCWs, which may help inform prevention and treatment efforts in this population.

#### No. 4

##### **Acute Extrapyramidal Side Effects From Smoked Haloperidol: A Case Report**

*Poster Presenter: Angeline Pham, M.D.*

*Co-Authors: Christopher Miller, Jooyoung Lee, M.D.*

##### **SUMMARY:**

**Introduction** Haloperidol is a dopamine receptor antagonist used to treat patients with psychotic disorders. Especially at high doses, haloperidol carries a higher risk of extrapyramidal symptoms (EPS) compared to second-generation antipsychotics. Few cases of haloperidol misuse are found in the medical literature. **Case Report** We describe a patient with schizophrenia who smoked marijuana mixed with crushed haloperidol tablets. After the smoking of cannabis and haloperidol, the patient presented to the emergency department (ED) with suicidal ideation, psychosis, and acute dystonia. With the administration of intramuscular diphenhydramine at the ED, the dystonia resolved in less than an hour. To our knowledge, this is the first report on haloperidol misuse by smoking.

**Conclusion** Clinicians should be aware that patients might misuse prescribed antipsychotics via

unconventional routes, potentially combined with other substances.

#### No. 5

##### **Defined by Disease States: Elderly, Mentally Ill, Alcoholic, Homeless and Non Compliant**

*Poster Presenter: Melinda S. Lantz, M.D.*

*Co-Authors: Kecia-Ann Blissett, Adelle Schaefer, M.D.*

##### **SUMMARY:**

**Introduction:** Intoxicated patients in ED are labeled w/ social determinants stereotypes like age, income, housing & substance use. "Older, intoxicated, homeless female w/ Psych history well known to ED" is a typical statement & medical issues are overlooked. Complications from alcohol include withdrawal, encephalopathy, electrolyte imbalance, delirium & sequelae from falls. This case shows an older, homeless woman presenting to ED 31 times in 2 months, returning w/complaints of "feeling groggy" & diagnosed w/ acute on chronic subdural hematoma & rightward shift. Despite references to mental illness & inability to self-care she was often allowed to sign AMA. **Methods:** Case identified from patients at Mount Sinai Beth Israel, urban medical center serving multicultural & socioeconomically diverse population including NORC sites. The center has been serving Manhattan population since 1889 & provides full behavioral health service including substance use & opioid treatment. **Results:** Ms R is a 73 y/o w/ Alcohol Use Disorder. She presents to ED intoxicated, wanting detox, often leaves before treatment/ when admission is discussed. Her Blood Alcohol Levels ranging from 120 to 300 mg%. She stopped working as an attorney due to alcohol. She was diagnosed w/ Bipolar disorder earlier in life but is not in treatment. This visit, she presented w/ severe AMS & head CT showed: Left acute on chronic subdural hematoma requiring admission to Neuro ICU for drainage. She left AMA after refusing the procedure. Several days later, admitted to a different hospital, hematoma was identified & drained. She presented back to our hospital intoxicated, requesting detox. Team is concerned about declining cognitive status & functioning given lack of support, alcohol use and mental health. **Discussion:** Elderly patients w/ social determinants become frequent utilizers of ED but fail in linkage to

outpatient services<sup>1</sup>. When intoxication is listed as presenting symptom, clinicians assess mental status or refer to social workers for linkages to services. Assessment of cognitive loss is limited although rapid measures such as the Mini-Cog and AD8 are useful even in ED. A meta-analysis study shows Mini-Cog detection of dementia w/ Specificity of 0.89 and Sensitivity of 0.99.<sup>2</sup> It is a quick 3 questionnaire that can be used to screen in ED. A study conducted in patients over 70 years in ED looked at informant reporting through AD8, showing 61.2% detection of cognitive impairment.<sup>3</sup> This patient had challenges crossing many domains of social determinants of health. Yet she had achieved many years of formal education, a history of employment & family in another state; potential resources that could be beneficial. These vital elements were lost as she was viewed as a “homeless intoxicated alcoholic woman.” **Conclusions:** This case highlights that patients with complex determinants of health are often overwhelming for providers. Complex needs often leads to no needs being met by providers.

#### **No. 6**

##### **A Case of Chronic Hashimoto Encephalopathy With Delayed Treatment Due to Psychiatric Symptoms**

*Poster Presenter: Stefanie Alexander, M.D., Ph.D.*

*Co-Author: Jeffrey Stovall*

##### **SUMMARY:**

**Background:** Hashimoto encephalopathy (HE) is a rare disease associated with auto-immune thyroiditis with an estimated prevalence of 2 in 100,000. It is associated with high titers of anti-thyroid peroxidase antibodies. Neuropsychiatric manifestations of HE include cognitive impairment, behavioral changes, psychosis, mood disturbance, partial or generalized seizures, focal neurological deficits, and sleep disturbance. The pathophysiology of HE is likely related to autoimmune or other inflammatory processes. Treatment options include steroids, plasma exchange, IVIG or immunosuppressant agents such as rituximab, methotrexate, or mycophenolate. **Case Description:** This case describes a 26-year-old female patient who initially presented with confusion, hypersomnia, emotional lability, catatonia (hypoactivity, mutism, catalepsy, staring, grimacing), visual hallucinations,

disorganized behavior, and ideas of reference. Anti-TPO antibodies were elevated to >2000 and she was treated with IV methylprednisolone and a prednisone taper with initial benefit. However, over the next several months she presented several times with worsening manic and psychotic symptoms including elevated mood, flight of ideas, increased speech rate, decreased need for sleep, excessive spending, grandiose delusions, and paranoia and was diagnosed with bipolar disorder and started on lithium, olanzapine, and lorazepam though ultimately only improved after index course of electro-convulsive treatment (ECT). Over the next six years she was treated exclusively by psychiatry for bipolar disorder, continued to have breakthrough symptoms, and failed multiple antipsychotics and mood stabilizers. Some of her symptoms improved with maintenance ECT, but she still had impaired functioning. Six years after her initial presentation, she presented again with symptoms of delirium, psychosis, and catatonia. Neurology was consulted, and an EEG showed temporal spikes concerning for temporal lobe epilepsy though no seizures were recorded. Anti-TPO antibodies continued to be elevated. She underwent a course of IV methylprednisolone with plasma exchange and was transitioned to mycophenolate and ultimately rituximab with significant improvement in function. She continued receiving maintenance ECT and lorazepam for catatonia which has been tapered without the patient decompensating. **Discussion:** Hashimoto encephalopathy often presents with both neurologic and psychiatric symptoms. Initial treatment with steroids can cloud diagnosis and delay effective treatment. This disease can be misdiagnosed as a purely psychiatric condition if unresponsive to an initial course of treatment. For some patients, a longer course of treatment may be required. **Conclusion:** This case highlights the importance of proper diagnosis and treatment of chronic Hashimoto encephalopathy despite underlying psychiatric symptoms.

#### **No. 7**

##### **Maternal Substance Misuse and Maternal-Fetal Outcomes: A Retrospective Longitudinal Study.**

*Poster Presenter: Joan C. Oh*

*Co-Author: Karim Ghobrial-Sedky*

#### **SUMMARY:**

**Background:** Illicit maternal substance use during pregnancy, such as opioids, benzodiazepines, and alcohol is a significant public health concern, that has increasingly become more common for the past decade. This issue is important to address due to the numerous complications that arise for both the mother and fetus. The relationship of each substance was assessed by describing the prevalence rates and maternal-fetal consequences of prenatal exposure to these substances. **Methods:** To establish the prevalence of substance misuse in pregnancy within Cooper University Hospital, a chart review was conducted on 250 pregnant women. The use of each substance was recorded through either history taking and/or urine drug screens (UDSs). **Results:** Overall, neonatal complications were highest in the maternal use of opioids ( $p=0.009$ ) and nicotine ( $p=0.001$ ). The median neonatal intensive care unit (NICU) length stay was highest in maternal use of opioids ( $p=0.002$ ). The highest neonatal abstinence syndrome (NAS) rates were found in neonates whose mothers misused opioids ( $p=0.001$ ) and benzodiazepines ( $p=0.007$ ). Thus as expected, the highest newborn withdrawal rates requiring treatment were also found in these two groups respectively ( $p<0.003$  and  $p=0.038$ ). We did not find any relationship between specific substance misuse and maternal complications in our study. **Discussion and Conclusion:** This study suggests that mothers and infants have a higher risk for the development of short-term and long-term maternal-fetal outcomes, based on the specific substance that was used. The increasing prevalence of maternal substance misuse highlights the importance of education on the risks, outcomes, and treatment of substance use in pregnancy. Further research is required to better understand these specific maternal-fetal outcomes and to better guide potential treatments and therapies for substance misuse.

#### **No. 8**

##### **Occult Xylazine Overdose in a Case of Septic Shock**

*Poster Presenter: Lauren M. Behlke, M.D.*

*Co-Authors: Dustin Todaro, M.D., Samantha Zwiebel, M.D., M.A.*

#### **SUMMARY:**

**Background** Xylazine is an alpha-2 agonist, similar in mechanism to clonidine, used in veterinary medicine for sedation. It is not FDA-approved for human use due to the risk of hypotension. Recent studies report increasing prevalence and deadliness of xylazine contamination in heroin and fentanyl overdoses. **Case** A 55-year-old woman with a history of opioid use disorder, stimulant use disorder, and type 2 diabetes presented to the emergency room with altered mental status. The patient was initially somnolent, hyperglycemic, and febrile. She became hypotensive and required pressor support, resulting in admission to the ICU with concerns for sepsis. The Psychiatry Consult/Liaison service was consulted for management of her severe opioid use disorder, consisting of large quantities of daily intravenous fentanyl. Her last use was shortly prior to arrival. Physical exam was notable for multiple ulcers on upper and lower extremities. Initial urine drug screen was positive for fentanyl and cocaine. Due to the quickly resolved hypotension and ulcers, psychiatry recommended a urine xylazine quantification. Xylazine was detected in the patient's urine. The patient was unaware of xylazine contamination in her fentanyl. **Discussion** Xylazine overdose likely contributed to the degree of hypotension and hyperglycemia in the patient's presentation, in addition to her ulcerating skin lesions. Xylazine is almost never tested on a standard drug screen, highlighting the importance of recognizing the clinical symptoms of xylazine intoxication to mitigate complications of withdrawal and overdose.

#### **No. 9**

##### **Predicting Older Adult Alcohol Misuse Using Machine Learning Approaches**

*Poster Presenter: Matthew Wickersham*

#### **SUMMARY:**

**Background:** Older adult life expectancy has steadily increased over the past years, with those over 65 expected to represent 20% of the total population in the upcoming decade. Given this growth, more focus should be put on understanding the health of older adults, particularly mental health. Of mental health concerns, substance use is common with 50% of

older adults admitting to consuming alcohol. Yet, of those assessed, not everyone accurately diagnosed or recorded as having alcohol *misuse*. Given that artificial intelligence has been proven to effectively predict various health outcomes, machine learning methods can be applied to identify older adults at high risk of alcohol misuse that may otherwise go unnoticed and untreated. **Methods:** This study used the United Kingdom Biobank (UKB) to find 1,536 older adults with known ongoing alcohol misuse at the time of enrollment. A random sample of 1,536 older adults were used as a control group. Prior to testing various supervised learning methods, the dataset was preprocessed and split into 80% training and 20% testing sets. Various supervised learning algorithms were trained and tested and validated through a 10-fold cross-validation. Feature selection was applied on the top performing model assessed by area under the receiver operating curve (AUROC). This model was applied to a large electronic health record (EHR) of 4,142 older adults with known alcohol misuse as identified by an ICD-10 code, with 4,142 patients used as a control. **Results:** Preliminary results show various models perform significantly better than random chance with respect to AUROC. Specifically, extra trees classifier outperforms other models with an AUROC of 0.904. Relatedly, the area under the precision-recall curve (AUPRC) was 0.89. This supports the hypothesis that clinical, demographic and questionnaire features from the UKB can favorably predict alcohol misuse in older adults. Once feature selection was applied and only the top 10 features were included, this model performed similarly, with an AUROC of 0.902 and AUPRC of 0.88. This model with the most contributing features was then applied to the EHR cohort. The logistic regression classifier outperformed the other models with an AUROC of 0.850 and an AUPRC of 0.84. This suggests that models trained and tested using smaller cohorts and simpler data frames can be effectively translated into more complex data models like large medical health record systems. **Conclusion:** This study prioritizes the health of older adults by being able to predict alcohol misuse in an exponentially growing population. This project is novel in approach by developing machine learning algorithms on smaller external datasets to be transformed and applied to larger EHR systems. In doing so, this creates new

opportunities to approach EHR data to find more efficient ways to predict health outcomes in the future.

**No. 10**  
**Prolonged Psychosis With Reformulated Methamphetamine**

*Poster Presenter: Tyler Ruch, M.D.*

*Co-Authors: Ali A. Farooqui, M.D., Rifaat El-Mallakh, M.D., Christina Louise Terrell, M.D.*

**SUMMARY:**

Substance use disorder consumes a large fraction of emergency department (ED) resources and is the eighth most expensive ED mental health disorder, accounting for \$238 million in 2017. Increased methamphetamine (MA) use in the early 2000s led to the regulation of ephedrine and pseudoephedrine in 2005. While there was a modest reduction in MA use after this action, it was transient as more organized drug cartels replaced the reductive amination step with phenyl-2-propanone instead of pseudoephedrine. We hypothesized that this change led to increased potency of the drug. We examined the use patterns of a holding bed unit (HBU), in which patients can be held overnight to see if mental status improves, in a dedicated psychiatric emergency service (PES). We examined data from 2009 to 2019, an interval that incorporates the onset of the increase of MA potency in the mid 2010s up until the year preceding the coronavirus pandemic. Using a test of proportions, we determined the fraction of people admitted to the HBU for substance use disorders. With regards to results, there was a dramatic increase in the fraction of people admitted to the HBU for substance use disorders from 8.3% to 39% ( $z = -15.78$ ,  $P < 0.00001$ ). Among those admitted to the HBU, the fraction staying greater than 24 hours increased from 8.0% to 15.4% ( $z = -4.81$ ,  $P < 0.00001$ ). In discussing the results, these changes parallel the changes in MA potency. It is not clear what aspect of reformulated MA is responsible for the increased predisposition to prolonged psychosis. However, since the reformulation of MA, it appears to be more potent as is reflected in our data. For this to be adequately addressed, the use of MA in the United States must be treated as a public health crisis.

**No. 11****Rural-Urban Disparities in Post-Discharge Outcomes Following Alcohol-Related Hospitalizations in Ontario, Canada: A Retrospective Cohort Study**

*Poster Presenter: Erik Loewen Friesen, M.Sc.*

*Co-Authors: Paul Kurdyak, M.D., Ph.D., Laura Rosella, Peter Selby*

**SUMMARY:**

*Introduction* Outcomes following alcohol-related hospitalizations are poor, with high rates of short-term readmission and mortality [1]. Individuals living in rural communities may be at increased risk of post-discharge harm due to limited access to follow-up mental health and addiction (MHA) services [2,3]. This study evaluated (1) the association between rurality and clinical outcomes following alcohol-related hospitalizations, and (2) whether a reduced likelihood of receiving post-discharge MHA care in rural, relative to urban, communities mediated an increased risk of post-discharge harm. *Methods* This was a population-based retrospective cohort study of individuals discharged from an alcohol-related hospitalization between 2016 and 2018 in Ontario, Canada. The outcomes of interest were outpatient MHA care, alcohol-related hospital readmissions, and all-cause mortality within one year of discharge. The exposure of interest was rurality, measured using Statistical Area Classification (SAC) type. The associations between rurality and each outcome were assessed using multivariable time-to-event regression. Mediation analyses were conducted using a counterfactual approach with marginal structural models. *Results* Among 46,657 included in the cohort, 11.5% died in the year following discharge from the index hospitalization. Relative to individuals residing in urban centres, individuals residing in rural communities were less likely to receive MHA-related outpatient care (adjusted hazard ratio (aHR): 0.81, 95% confidence interval (CI): 0.76 – 0.87) and more likely to die (aHR: 1.15, 95% CI: 1.02 – 1.28) in the year following discharge. The lower likelihood of receiving post-discharge MHA-related care among individuals residing in rural communities mediated 39% (95% CI: 19-58%) of the increased risk of 1-year mortality. *Discussion* A lack of MHA-related follow-up care mediates an

increased risk of short-term mortality following alcohol-related hospitalizations in rural, relative to urban, communities. Improving access to MHA services in rural areas is required to reduce geographic disparities in post-discharge harm among individuals hospitalized for alcohol use.

**No. 12****The Use of Amphetamines in Adolescence Causing Adulthood Onset of Bipolar Disorder**

*Poster Presenter: Alysha Lubana, M.D.*

*Co-Author: Prashant Matai*

**SUMMARY:**

Associations between Bipolar Disorder and amphetamine use have been linked to causing rapid cycling Bipolar symptoms. Rapid cycling in patients with established Bipolar disorder occurs when patients experience four or more periods of mania or depression in one year. Since rapid cycling can be caused by amphetamine use in a patient with a Bipolar disorder, it can be theorized that prolonged amphetamine use in a person with predisposition to developing Bipolar disorder, can lead to an earlier age of onset. Studies have indicated patients with Bipolar disorder have thinner areas of cortical gray matter in the frontal, temporal and parietal lobes of bilateral hemispheres of the brain. Furthermore, prolonged amphetamine use has also been shown to decrease cortical gray matter in the brain upon imaging. As well, amphetamine use has been shown to lead to increases in serotonin levels. In the manic phase of bipolar disorder, serotonin levels are also at an increased level. The similarities between the structural and chemical changes displayed in amphetamine use and Bipolar disorder correlate with similar overt behavior. Our aim is to demonstrate that early and extended use of amphetamines in adolescence expedites the age of onset of Bipolar disorder.

**No. 13****Variations in Methadone Take-Home Dose Prescribing by Race During the COVID-19 Pandemic**

*Poster Presenter: William Hampton Coe, M.D., M.P.H.*

*Co-Author: Ayana Jordan, M.D., Ph.D.*

**SUMMARY:**

Methadone is a highly regulated opioid-agonist used in the treatment of opioid use disorder (OUD). To access this life-saving medication, individuals are often required to visit specialized opioid treatment programs (OTPs) daily, with only one take-home dose (THD) per week (usually on Sundays) if the clinic is closed. It takes at least one year of sustained treatment adherence for individuals to obtain 14 THDs and two years to obtain 28 THDs. There is limited evidence to justify the stringency of these existing methadone THD guidelines, which appear to be driven by stigmatization and fear. In fact, current data suggest that decreased regulation of methadone may lead to improved treatment outcomes. The history of methadone in the United States is mired in decades of racist policies and political scapegoating, beginning with the Nixon Administration's War on Drugs, which have led to significant racial disparities in OUD treatment and outcomes that continue to this day. At the beginning of the COVID-19 pandemic, the Substance Abuse and Mental Health Services Administration (SAMHSA) issued a blanket exemption to existing methadone THD guidelines, allowing individuals deemed "stable" to immediately receive 14 or 28 THDs in an effort to decrease in-person visits and promote social distancing, thereby slowing the spread of the virus among this high-risk population. Preliminary studies have shown that these exemptions were inconsistently applied across various OTPs. Our study seeks to better understand how the SAMHSA exemption was implemented through semi-structured interviews and analysis of individual- and clinic-level data from 6-8 geographically diverse OTPs across the United States. In particular, we explore how each OTP determined who was eligible (i.e., "stable") to receive an immediate THD increase and assess for variations in how these criteria were applied by race, taking into account other relevant demographic and treatment characteristics. We hypothesize that racially minoritized individuals were less likely to receive a THD increase when compared to their white counterparts. Data collection is currently in process. Ultimately, we hope this study will add to the limited evidence base on methadone prescribing and inform future policymaking aimed at increasing racial equity, autonomy, and access to care in OUD treatment.

**No. 14****Characterizing Mental Health-Related Diagnoses and Service Use Among Adult Patients Prescribed Pre-Exposure Prophylaxis for HIV Prevention.**

*Poster Presenter: Ryan M. Norris, M.D.*

*Co-Authors: J. Shim, Kelli Peterman*

**SUMMARY:**

Background: Despite increasing awareness about effective HIV prevention strategies, the incidence of infection in the US remains high. Pre-exposure prophylaxis (PrEP) is a highly effective strategy for preventing HIV, however, the effectiveness of PrEP is dependent on adherence. Psychiatric conditions, such as depression and anxiety can impede medication adherence (1) and also predispose individuals to engage in behaviors that increase the risk for HIV infection. HIV is also a well-established risk factor for depressive and anxiety disorders (2, 3). Despite the complex interplay between HIV risks, prevention, and mental health, little research has examined the mental health conditions and treatment of patients using PrEP. Objectives: To examine the prevalence of mental health-related diagnoses and service utilization among a population of individuals using PrEP and to examine differences in diagnosis prevalence and access to care by patient demographics. Methods: In this descriptive, retrospective cohort study, we used electronic health record data from Kaiser Permanente Northern California, an integrated health system, including members who were prescribed PrEP between 7/1/2012 and 3/31/2019. We conducted bivariate analyses between patient characteristics and mental-health related diagnoses, psychotropic medication prescriptions, and mental health service utilization in the 12 months following PrEP initiation. Results: Among 10,038 patients in the cohort, 97% were male and 3% were female. Mean (SD) age was 36.3 (10.9) years. 50.9% of patients were white; 6.0% Black; 20.3% Hispanic; 15.1% Asian; 7.8% other race. The most common psychiatric diagnoses were depression (14.6%) and anxiety (15.1%). 22.4% of patients had a prescription for an antidepressant and 15.6% for an anxiolytic. 18.5% had one or more visits in outpatient psychiatry. Anxiety diagnoses were more common in younger individuals and

depression diagnoses were more common in older individuals (both comparisons,  $p < 0.001$ ). Depression diagnoses, anxiety diagnoses, and outpatient psychiatry visits were all more common among white individuals than any other race ( $p < 0.001$ ). Among individuals with depression or anxiety diagnoses, white people were more likely to have antidepressant and anxiolytic prescriptions ( $p < 0.001$ ). Conclusions: Nearly 15% of the cohort carried a depression diagnosis, more than double the prevalence in the United States. This population has significant mental health burden and could benefit from further integration of sexual and mental health services. Also notable was that white individuals in this cohort with depression and anxiety were more likely to have antidepressant and anxiolytic prescriptions than non-white individuals with these diagnoses, suggesting possible disparity in access to mental health treatment. Further study using this data would help to understand the complex interactions between HIV prevention and mental health.

#### **No. 15**

##### **A Difficult Pediatric Case of Treatment-Resistant Bipolar Disorder: A Case Report**

*Poster Presenter: Yasmine Deol, M.B.B.S.*

*Co-Author: Arleen Andujar, M.D.*

##### **SUMMARY:**

Based on diagnostic interview data from National Comorbidity Survey Adolescent Supplement (NCS-A), the lifetime prevalence of bipolar disorder in adolescents is 2.9% and about 2.6% had severe impairment. The prevalence of bipolar disorder among adolescents was higher for females (3.3%) than males (2.6%), and the early age of onset is associated with worse prognosis for duration of illness. We present a case of a 13-year-old female with past psychiatric history of anxiety disorder (who had never been on psychotropic medications, but was enrolled in individual psychotherapy with good response). The patient presented with an acute onset of erratic behavior that was described by her parents as increased irritability, decreased need for sleep, hyperverbal speech with illogical thought content. She was diagnosed with bipolar disorder with psychotic features, was started on risperidone

and was admitted to inpatient unit for further management. During the hospitalization, the patient presented with grandiosity, decreased need for sleep, impulsivity, expansive mood and marked affective lability, echopraxia, paranoia, erotic preoccupations with male staff and often disrobing herself, disruptive and hypersexual behaviors. She was often reluctant to accept medications out of belief that she could be poisoned. She had frequent episodes of extreme psychomotor agitation requiring intramuscular medications and four-point restraints. These symptoms proved highly resistant to treatment despite trials of four second generation antipsychotics (risperidone, olanzapine, quetiapine and asenapine) at maximized doses. Eventually, loxapine was started and valproic acid was added for mood stabilization effect. The patient showed significant improvement on this combination and was observed to be appropriate for discharge. Within ten days, she presented back to psychiatric emergency room with relapse of both mood and psychotic symptoms despite full compliance with treatment as confirmed by therapeutic valproic acid level. She was readmitted to the inpatient unit. The valproic acid was discontinued and lithium carbonate was added along with increasing the dose of loxapine. The patient showed a good response to this regimen and was discharged with no recurrence of symptoms for 3 months of outpatient follow-up. In this poster we discuss the challenges of treating pediatric bipolar disorder and summarize recent guidelines that provide a stepwise approach for its management.

#### **No. 16**

##### **COVID-19 Creating a “Long-Haul” Hospitalization for Bipolar Disorder**

*Poster Presenter: Mitchell McDaniel, M.D.*

*Co-Author: Garima Garg, M.D.*

##### **SUMMARY:**

Background: The impact of COVID-19 on various psychiatric conditions has been well documented since the beginning of the pandemic. The resulting neuroinflammation from infection with COVID-19 is attributed to the increase in prevalence of depression, anxiety, delirium, and PTSD, as well as some growing evidence for COVID-19 infection

contributing to psychosis. The pathogenesis of bipolar disorder is understood to be more closely associated with genetics as opposed to environmental factors and there is significantly less known about the impact of COVID-19 infections on bipolar disorder. Here we present a case of a patient with bipolar disorder who required longer psychiatric hospitalization following COVID-19 infection

**Case Presentation:** JK is a 45 year old married white male with a history of bipolar disorder was admitted for bizarre behavior, depressed mood, delusions, paranoid thoughts, increased alcohol use, and sleep disturbances. His last known manic episode was in March 2020, where he was hospitalized for two weeks. He tested positive for COVID-19 in February 2021 and his home medications were risperidone, bupropion and lithium. On admission his lithium level was subtherapeutic and lithium therapy was reinitiated. Olanzapine was tried for 8 days and then we switched to bupropion and risperidone. Bupropion was discontinued after 3 days. On day 14 there was noticeable improvement in affect and mood but no change in delusional thinking. After 20 days patient was close to baseline and was discharged to family on hospital day 23 after receiving risperidone long acting injectable. Follow-up from family revealed depressive symptoms and delusional thoughts returned within a week of discharge and the patient was hospitalized again within two weeks of discharge. Discussion: COVID-19 has been shown with varying degrees of evidence to contribute to the development or worsening of multiple mental health disorders. This is thought to be primarily due to both generalized inflammation and neuroinflammation as well as various psychosocial factors associated with the pandemic. The lack of in-person visits due to the pandemic and the questionable medication adherence may have led to the decompensation of this patient but the increased length of hospitalization and subsequent rehospitalization are likely a sequela of being infected with COVID-19. Conclusion: This case demonstrates the importance of including information about COVID-19 infections and vaccination status in a psychiatric history. Additionally, this patient was treated with antipsychotic medication that is not known to have a significant anti-inflammatory effect. This may

represent further support for reported success with psychiatric medications that also have anti-inflammatory properties through the sigma receptor such as: Fluvoxamine and Haloperidol.

#### **No. 17**

#### **Mania and Psychosis After Acquired Visual Impairment: A Case Report**

*Poster Presenter: Tuna Hasoglu, M.D.*

*Co-Authors: Dallas Hamlin, M.D., Alison Swigart, M.D.*

#### **SUMMARY:**

**Background:** Patients with acquired visual impairment (AVI) are at risk for circadian dysfunction, perceptual abnormalities and disturbances in mood. Bipolar disorder and schizophrenia are associated with both circadian rhythm dysfunction and visual abnormalities (Satzler, 2016, Takaesu 2018, Pollak 2020). Herein, we present a case of mania in a patient with AVI to demonstrate the importance of early recognition of mood and psychotic symptoms in the care of this population and discuss the neuropsychiatric sequelae of AVI. **Case:** We present a case of 26-year-old male with a history of ADHD who presented to the hospital in hypertensive emergency with subacute vision loss in the setting of taking prescribed amphetamine/dextroamphetamine mixed salts, large amounts of caffeine, and over-the-counter decongestants. End-organ damage resulted in near-complete blindness, and multiple small infarcts in bilateral cerebral and cerebellar hemispheres. Ophthalmic exam revealed optic neuritis and retinopathy with retinal hemorrhage. After medical stabilization, the patient was followed at the psychiatry clinic for mild depressive symptoms. Throughout the following year, he gradually developed sleep cycle dysfunction in the setting of AVI. Over the subsequent two months, he developed manic and psychotic symptoms including irritable mood, decreased need for sleep, aggression, persecutory and grandiose delusions, and ideas of reference, necessitating two inpatient psychiatric admissions. The patient was ultimately stabilized on olanzapine 20mg/day and valproic acid 1000mg/day, and he was connected with a coordinated specialty care clinic for first episode psychosis clinic for



ongoing outpatient treatment. **Discussion:** The ultimate etiology of the patient's symptoms is unclear. He may have otherwise developed a primary psychiatric disorder in the absence of AVI, but his symptoms developed in the setting of circadian rhythm dysfunction, which is a risk-factor for mania (Takaesu 2018). Alternatively, these symptoms could have represented sequelae of the neurovascular injuries sustained during hypertensive crisis. Other case reports discuss the development of mania after a focal neurovascular insult and show that the onset of symptoms is similar to our case and is within the first 24 months (Satzler 2016).

**Conclusion:** This case highlights that AVI may contribute to the development of mood and psychotic disorders, either through direct or indirect mechanisms. Optimal clinical management requires a multidisciplinary approach involving different specialties as well as mobilization of community supports.

**No. 18**  
**WITHDRAWN**

**No. 19**  
**QT and the beast: a case of valproate monotherapy for schizoaffective disorder-bipolar type with comorbid congenital long QT syndrome**

*Poster Presenter: Matthew Joseph Johnson, D.O.*  
*Co-Authors: Heemani Ruparel, Ka-Lisha Simons, M.D.*

**SUMMARY:**

Congenital long QT syndrome (LQTS) is an inherited cardiac disorder mainly diagnosed via electrocardiogram. Prolonged QTc is often defined as >450ms in males and >470ms in females. The true prevalence of LQTS is unknown, but it is estimated to be about 1:2000 live births. Comorbid diagnoses of schizoaffective disorder-bipolar type and LQTS can be difficult to treat as many psychotropic medications are known to prolong the QTc, leading to Torsades de Pointes. Comorbid schizoaffective disorder and LQTS has been seldomly described. We report a patient with schizoaffective disorder-bipolar type and untreated, comorbid LQTS who presented with psychiatric symptoms and a prolonged QTc four times within a year-span. This patient's symptoms were resolved with valproate

monotherapy without prolonging QTc. This case discusses our treatment at each presentation, and the nuances and considerations for the management of these comorbid diagnoses.

**No. 20**  
**Second-Generation Antidepressant Monotherapy in Acute Depressive Episodes of Bipolar II Disorder: A Systematic Review and Meta-Analysis**

*Poster Presenter: Jin Hong Park, M.D., M.S.*  
*Co-Authors: Balwinder Singh, M.D., M.S., Nicolas Nunez, Manuel Andres Gardea Resendez, M.D.*

**SUMMARY:**

Introduction: Bipolar II disorder (BD-II) has been underrecognized by clinicians and there has been dearth and conflicting evidence for well-developed treatment guidelines. The aim of this systematic review and meta-analysis was to estimate the efficacy and risk of second-generation antidepressant (SGAD) monotherapy in acute BD-II depressive episodes in adult populations. Methods: A literature search was conducted from database inception till March 2021. Only double-blinded randomized controlled trials (RCTs) that assessed SGAD monotherapy in acute BD-II depressive episodes were included. Our primary outcome was response rates and secondary outcomes were treatment-emergent affective switch rates and discontinuation rates due to side effects. Risk ratio (RR) was calculated using the Mantel-Haenszel random effects model. A PRISMA protocol was followed and registered at PROSPERO (CRD42021240974). Results: 3300 studies were screened, and 27 articles were selected for full-text review. Three studies met the inclusion criteria: Two studies<sup>2,3</sup> [n= 223, SGAD= 113 (venlafaxine= 65, sertraline= 45), lithium/control= 110] with mean age= 41.2 years, female= 52.5%, and study duration range from 12 weeks to 16 weeks. One study<sup>1</sup> was not available to be included in the meta-analysis given missing data. The response rates for SGAD monotherapy compared to lithium monotherapy were similar with a RR=1.44, 95% CI [0.78, 2.66]; P= 0.24; I<sup>2</sup>= 86%. The treatment-emergent affective switch rates for SGAD monotherapy were not significantly different from lithium monotherapy with a RR= 0.88, 95% CI [0.40, 1.92]; P=0.72; I<sup>2</sup>=

33%. The discontinuation rate due to side effects for SGAD monotherapy was significantly lower than lithium monotherapy with a RR=0.32, 95% CI [0.11, 0.96] P=0.04; I<sup>2</sup>= 0% but all-cause discontinuation rates were similar in both groups. The main limitation of this systematic review was the small number of RCTs. Conclusion: Our focused meta-analysis suggests that SGAD monotherapy was not inferior to lithium monotherapy for patients with acute BD-II depressive episodes. Additionally, the switch rates were not significantly higher than lithium monotherapy. There is a limited number of RCTs investigating SGAD monotherapy in BD-II. Further studies examining different classes of antidepressant monotherapy are urgently needed to validate this topic.

#### **No. 21**

##### **Childhood Racism: More Than Just Black and White**

*Poster Presenter: Nikith Shekar*

*Co-Authors: Andria Sharma, Kishan B. Shah, M.D., Stephanie Ruthberg, Sezai Ustun Aydin*

#### **SUMMARY:**

**Background:** The effects of racism on health outcomes including physical and psychological wellbeing has been well documented in adults. However, the relationship between racism and childhood is further complicated by factors unique to the pediatric population including parents experience with racial discrimination which can affect both parenting styles and prenatal stress<sup>1,2</sup>. For example, parents who have experienced low levels of racial discrimination demonstrated less vigilance in their parenting styles<sup>3</sup>. This study utilizes data from the Adolescent Brain Cognitive Development (ABCD) Study to determine the prevalence of perceived racial/ethnic discrimination in US children ages 9 and 10, and aims to identify methods to improve pediatric medical and mental health. **Methods:** Data was analyzed from the ABCD Study, a national NIH study that followed approximately 12,000 US children from age 9 and 10 through adolescence. Participants completed the Perceived Discrimination Scale at a one year follow up assessment. Chi square analysis was used to determine significant differences in racial discrimination by racial/ethnic group. Logistic

regression analysis was used to assess for association between household income and perceived racial discrimination. **Results:** Of the 10,340 children that were surveyed, 4.8% reported discrimination due to their race/ethnicity. The analysis was well balanced between gender (49% girls, 51% boys) and racial/ethnic groups (19.2% Latino/Hispanic, 16.0% Black, 5.5% Asian/Pacific Islander children, 3.0% Native American, and 1.3% Other). Following adjustment for other demographic factors, Asian/Pacific Islander (adjusted odds ratio [AOR], 2.76); Black (AOR, 2.64); Native American (AOR, 1.86); and Latino/Hispanic (AOR, 1.84) children had higher odds of perceived racism compared to White children. Among children with household incomes greater than \$75,000 Black race was associated with a high odds of 8.23 of perceived racism in comparison to those with incomes less than \$75,000 (2.43). Further analysis did not reveal a similar association between income and other racial/ethnic groups. **Conclusion:** Childhood perceived racism and discrimination can be defined as a toxic stress, which leads to enduring neurological structural changes that cause issues with learning and behavior<sup>1</sup>. Racial identity development, social support, and parental awareness and intervention have been shown to help mitigate the poor outcomes of racism on mental and physical health<sup>2-4</sup>. In order to mitigate the negative health effects, early intervention including social support for children and their families should be recommended early. Public health measures should not only be focused on reducing the effects of perceived racism but also on structural inequalities that affect all marginalized groups, such as housing and education<sup>1</sup>

#### **No. 22**

##### **The Relationship Between Clinician-Rated Psychopathology Prototype Ratings and the Parent-Reported Youth Outcome Questionnaire With Adolescents**

*Poster Presenter: Cassandra Mary Nicotra, D.O.*

*Co-Authors: Megan Ines, Shawn Allen, M.D., Greg Haggerty*

## **SUMMARY:**

**Intro:** Research has shown that psychiatrists prefer a prototype rating system as opposed to criterion-based DSM-5 categorical diagnoses. In addition, prototype ratings allow for clinicians to capture subclinical yet clinically meaningful psychopathology. This study looks to extend this line of research investigating the use of psychopathology prototype ratings and their relationship with commonly used measures. The aim of this study is to further illustrate this validity by comparison to another parent-rated scale, the Youth Outcome Questionnaire-parent form (YOC). **Methods:** 121 adolescent and young adult patients being seen for treatment in a large teaching hospital's child/adolescent outpatient clinic and their parents consented to an assessment and treatment outcome study. The sample consisted of 55% females with an average age of 18.77 (SD=3.2). Their ethnicity was 35.3% Caucasian, 31.9% African American, 23.3% Hispanic, 2.6% Asian, and 6.9% other. Diagnostically, 55% had a mood disorder, 19.3% ADHD, 8.3% conduct disorder or oppositional defiant disorder, 8.3% PTSD, 0.9% psychosis, and 8.3% other. 28 of these adolescent patients had their intake clinician complete the Adolescent Psychopathology Prototypes after a 1.5 hour psychiatric assessment interview, and their parent complete the YOC. The intake clinician was either the outpatient psychologist, psychology intern, or child and adolescent psychiatry fellow. The YOC was completed as part of a large assessment packet at the time of the child's psychiatric intake interview. **Results:** Results showed the ADHD prototype ratings were correlated with the YOQ-parent reported scales of hyperactivity/distractibility ( $r = 0.59, p < 0.001$ ) and conduct problems ( $r = 0.42, p < 0.01$ ). The Conduct Disorder prototype ratings were correlated with the YOQ-parent reported scales of conduct problems ( $r = 0.61, p < 0.01$ ) and aggression ( $r = 0.68, p < 0.01$ ). The Depression prototype scores were correlated with the YOQ-parent reported scale of depression/anxiety ( $r = 0.31, p = 0.05$ ). The Generalized Anxiety Disorder prototype scores were negatively correlated with the YOQ-parent reported scales of aggression ( $r = -0.48, p < 0.01$ ), conduct problems ( $r = -0.55, p < 0.01$ ), and hyperactivity/distractibility ( $r = -0.46, p < 0.01$ ). **Discussion:** This study demonstrates the relationship

between clinician ratings and parent ratings as they specifically relate to pairings of psychopathology prototypes and symptoms. These findings add to prior studies' results to further validate the use of the prototype ratings of psychopathology in outpatient adolescent settings to aid in addressing broader constructs of a patient's presentation rather than purely individual symptom reduction.

## **No. 23**

### **WITHDRAWN**

## **No. 24**

### **The Effectiveness of Mindfulness Meditation and Nursing Education in Decreasing the Events of Insomnia, Emotional and Behavioral Disturbance in an Ado**

*Poster Presenter: Kiran Jose, M.D.*

*Co-Author: Nicholas Jose Dumlaog, M.D.*

## **SUMMARY:**

**Introduction:** Mindfulness meditation practices have increasingly been popular in schools and medical settings. Sleep meditation for insomnia is relatively inexpensive, low-risk, and easy to implement, it is a viable option for people who have difficulty accessing other types of therapy or medication. These interventions are relatively safer than medications and can have potential long term benefits. **Hypothesis:** Mindfulness meditation and Nursing education in combination may help reduce the number of events of insomnia and affective disturbances which may lead to decrease number of as needed and emergent medications used to treat insomnia and affective disturbances. **Objectives:** A reduction in the number of medications used to treat insomnia and affective disturbances in an inpatient adolescent psychiatric unit. **Methods:** As a part of a quality improvement project 10 minute Mindfulness meditation groups were conducted on the unit. This intervention will be carried out five days a week for a period of three months. Handouts were given to Nursing on how to manage insomnia and agitation on the unit. Data was collected on the number of as needed or emergent medications used to treat insomnia or agitation 3 months prior to the study and 3 months during the period of the study and compared. **Results:** A total of 51 adolescents

were admitted to the unit, during the three month period of the study who participated in the meditation groups. When compared to the baseline data of 42 adolescents in the three months prior to the initiation of the study, mean events of any oral as needed or emergent medication for agitation or insomnia decreased from 6.3 to 4.1/adolescent ( $p>0.05$ ) and mean events of any medication oral or IM prescribed for insomnia or agitation decreased from 6.8 to 4.6/adolescent ( $p>0.05$ ) **Conclusion:** After comparison of the two groups, there was a decrease in number of episodes of agitation and insomnia on the unit, however the difference did not reach statistical significance. Mindfulness medication can be an effective strategy to reduce events of insomnia or agitation on the unit and further studies may help in determining the effectiveness of mindfulness meditation.

#### **No. 25**

##### **Challenges in Treating Disinhibited Social Engagement Disorder in a Patient Adopted Post-Infancy**

*Poster Presenter: Mariam A. Shalaby, B.S.*

*Co-Author: Ramnarine Boodoo, M.D.*

##### **SUMMARY:**

Here we present the case of a 10-year-old female patient with disinhibited social engagement disorder (DSED) whose symptoms persist despite various multi-disciplinary interventions. We hope to invite a discussion on the value of prevention and explore alternative frameworks for understanding this rare condition. In doing so, we will highlight the challenges we have faced in the treatment of DSED in a late-childhood patient with multiple adverse social determinants of health. S is a 10-year-old female with a past psychiatric history of ADHD-Combined Presentation, DMDD, PTSD who is followed by our team. Following an early-childhood history of neglect and abuse by her original caregiver, she was placed into a foster care home at age five and was adopted by the same family at age seven. Her adoptive parents noticed that she exhibited overly familiar behavior with strangers, which we later attributed to a DSED. She failed a trial of Parent-Child Interaction Therapy, which has been suggested to improve cases of disorganized

attachment in infants (Cicchetti, Rogosch, and Toth 2006). She is treated with lisdexamfetamine 30 mg once daily, risperidone 0.25 mg at bedtime, sertraline 25 mg once daily, as well as psychotherapy. And although this regimen has improved symptoms of other conditions, her disinhibited social behaviors persist. Significant efforts have been made to study interventions for disrupted attachment – which is the leading framework for understanding the cause of DSED – but the interventions' results have been found to be non-significant, and furthermore, these interventions have been primarily focused on infants (Zeanah and Gleason 2015, Bakermans-Kranenburg, Van, and Juffer 2005). Exploring other frameworks for disinhibited social engagement disorder has been suggested, however attachment theory remains at the forefront. For example, duration of deprivation from secure attachment to a caregiver is at least moderately associated with DSED severity (Zephyr et al. 2021). Early placement into secure families has been suggested to improve disinhibited social engagement disorder over the course of child development (Guyon-Harris et al. 2018). S was not placed early, but rather at age five, and unsurprisingly her DSED symptoms persist despite placement in a secure home. Similar presentations have been reported in the past (Chisholm 1998). In this poster, we describe the difficulties in treating S's DSED, and argue for early intervention. Additionally, given the refractory nature of S's case and similar cases reported in the literature, we urge the exploration of alternative frameworks for understanding DSED outside the classical attachment perspective. We hope that this will lead to more effective interventions for patients past infancy and those whose symptoms persist even after secure family placement.

#### **No. 26**

##### **Delayed Diagnosis of an Emergency Psychiatry Patient—Barriers and Solutions**

*Poster Presenter: Mariam A. Shalaby, B.S.*

*Co-Author: Aum Pathare, M.D.*

##### **SUMMARY:**

We present the case of a 37-year-old female with no previous psychiatric history who presented to the

Emergency Department (ED) requesting a psychiatric evaluation. The ED had previously discharged her after a similar presentation, but consulted psychiatry this time. We learned that in addition to being the second visit to our hospital, this was the sixth ED she had visited in a span of one week with the same complaint. Every time, she had been discharged home with recommendations to make an appointment with outpatient psychiatry. An acute manic episode was identified during our evaluation, found to be consistent with her prior presentations to the ED, and she underwent inpatient psychiatric hospitalization. This lack of recognition of mania in five prior ED visits highlights a few areas of concern. A need for increased psychiatric training in emergency medicine residencies or increased psychiatric care in emergency departments has been noted in the literature (Nordstrom et al. 2019). On the other hand, emergency departments hold legitimate concern about boarding psychiatric patients they are ill-equipped to provide definitive care for (Nolan et al. 2015). Additionally, suicidal and homicidal ideation have been identified as important to screen for (King et al. 2017), but they may be overemphasized in an emergency evaluation. Our patient had been evaluated for suicidal and homicidal ideation but never underwent a comprehensive evaluation for other forms of dangerousness until the final visit. The dangers posed by her psychiatric illness included inability to fend for herself or those in her care, along with erratic behavior that unwittingly put her in harm's way. In this poster, we will use our patient's case as a platform to discuss ways in which emergency psychiatric evaluation can be improved to identify patients in need of inpatient psychiatric care in a timely fashion. We will advocate for looking beyond traditional constraints, emphasizing accuracy of diagnosis and assessment of safety beyond minimal basics, and promoting effective use of healthcare resources.

## **No. 27**

### **Higher Annual and 30-Day Emergency Department Utilization Among Youth Experiencing Housing Instability With Psychiatric Chief Complaints**

*Poster Presenter: Eric Pan*

*Co-Authors: Jeremy Weleff, D.O., Jessica Liu, Spencer Seballos, Michael Phelan*

## **SUMMARY:**

**Background:** Homelessness and housing instability is an independent predictor of poor health and high use of health services among youth and adults. Many structural and individual patient level factors play a role in these disparities. Children and adolescents experiencing homelessness have higher rates of adverse childhood events (ACEs), self-injury, suicidal ideation, and suicide attempts, as well as fewer protective factors. The present study seeks to characterize a large cohort of homeless youth and investigate psychiatric vs. medical emergency department (ED) presentations, and their possible relationship to both ED and resource utilization.

**Methods:** All patients under 18 years old experiencing homelessness/housing instability that presented to the emergency department of a large health system between the years 2014-2020 were included. Homelessness was determined by address field (using a standardized field for homelessness or matched that of a local shelter/transitional house) or ICD-10 code (Z59.0). Demographics and ED visits were extracted from the electronic health record (EHR), while variables concerning psychiatric history, nature of ED presentations (psychiatric vs medical), length of stay (LOS), and imaging/lab tests during encounters were extracted by chart review. T-tests were completed for each sub-analysis. **Results:** This retrospective analysis identified 813 children experiencing homelessness and 2009 unique visits over the study period. The cohort was almost equally male to female (N=416, 51.2% male), and one-third had past psychiatric diagnoses (N=271, 33.5%). The mean age of patients presenting for psychiatric chief complaints (CC) was 11.9 vs. non-psychiatric CC mean age of 7.1 (p<0.001). The mean length of stay (LOS) for a psychiatric CC was 285.25 minutes vs. non-psychiatric CC LOS of 139.68 minutes (p<0.001). ED presentations in the last 12 months for psychiatric CCs was 1.31 vs 1.02 in non-psychiatric CCs (p<0.05). ED presentations in the last 30 days for psychiatric CCs was 0.32 vs. 0.14 in non-psychiatric CCs (p<0.001). Of note, at ED presentation imaging was done at a greater rate for non-psychiatric CCs, but bloodwork and urinalysis was done at a greater rate for psychiatric CCs (all p<0.001). **Conclusion:** Children experiencing homelessness and housing instability that present to

the ED with psychiatric chief complaints appear to have greater annual and 30-day ED utilization rates, increased LOS, and greater rates of blood and urine testing in the ED setting. More research is required to better understand possible reasons for this association, and to better characterize this population. These results may inform the planning of interventions to address these disparities and improve the allocation of mental health and social work services to the EDs in order to support this particularly vulnerable population.

#### **No. 28**

##### **Impact of COVID-19 on Patient Volume and Presentation in Comprehensive Psychiatric Emergency Programs (CPEP) in a Large Urban Hospital System**

*Poster Presenter: Lucy Xu, M.D.*

*Co-Authors: Michael Graber, M.D., Anuron Mandal, M.D.*

#### **SUMMARY:**

The COVID-19 pandemic has had profound impacts on public health, healthcare delivery and mental health. While it is well known that during the peak of the pandemic, there was a significant reduction in medical ED volume, less is known about the impact of COVID on emergency psychiatric volumes and presentations. New York City was considered the epicenter of the COVID-19 pandemic in the United States during spring 2020. On March 20, 2020, Governor Cuomo issued a stay-at-home order in an attempt to curb the spread of the novel coronavirus. This effective lockdown would remain in place until mid June, when NYC began general reopening. The Mount Sinai Health System is one of the largest hospital systems in the NY metropolitan area and played a major role in providing medical and psychiatric care to NYC during the COVID pandemic. In this study, we investigated whether there were differences in patient volume and acuity of presentation during the COVID pandemic when compared to the same time period in 2019 as well as when compared to the months following reopening (Jun 16- Nov 9, 2020). We performed a retrospective study using de-identified data from three Comprehensive Psychiatric Emergency Programs (CPEP) within the Sinai Health System. We found

that there was a 21.2% reduction in average daily patient volume during the COVID pandemic when compared with the same time period in 2019 as well as a 12.3% increase in volume during the months following reopening when compared with the pandemic. In terms of patient presentation, we found that 67.4% of patients presented with EMS during the pandemic, which was significantly higher than the same period in 2019, when 58.0% of patients presented with EMS. There was no difference in rates of patients presenting with EMS between the pandemic and the months following reopening. 16.5% of patients presented with depression and/or anxiety during the COVID peak, which was significantly lower compared to the same time period in 2019 (27.6%) and compared to the months following reopening (21.8%). There was no significant difference in percentage of patients presenting with psychosis. On the contrary, there was a higher percentage of patients presenting with intoxication during and immediately after the pandemic when compared with the same time period in 2019. Furthermore, our studies showed a higher admission rate (18.7%) during the pandemic when compared to same period in 2019 (11.8%) but no difference in admission rate between the pandemic and the months following reopening. The LOS of patients admitted was longer during the months following reopening (13.3 days) when compared to during the pandemic (12.0 days) and when compared to Mar-June 2019 (10.9 days). Overall, these findings indicate a reduction in CPEP volumes during the COVID pandemic along with an increase in higher acuity presentations that seemed to persist even after reopening.

#### **No. 29**

##### **Collaboration Between Law Enforcement Officers and Psychiatrists to Identify, Address, and Resolve Gaps in Community Mental Health Care.**

*Poster Presenter: Shayna Jenny Popkin, D.O.*

#### **SUMMARY:**

**Abstract** Law enforcement officers often find themselves as the front-line professionals who interact with people of the community struggling with severe mental illness, especially when they are in crisis. Law enforcement officers are faced with the

challenging balance of protecting the safety and welfare of the community with protecting an individual suffering with mental illness. Law enforcement officers are faced with the ethical and moral dilemmas of deciding if a person who committed a crime should be taken directly to the criminal justice system or first be evaluated by the mental health system. Psychiatrists have years, sometimes decades, of training to become experts on mental illness. Law enforcement officers have to make split time decisions in high stress, risky situations, with limited mental health training and resources at their disposal. While many strides have been made to improve community mental health, gaps in care remain. Children's National Medical Center and Montgomery County, Maryland Sheriff's Office have partnered up to tackle these issues head on. The goal of this collaboration is to identify, address, and work to resolve areas of mental health concern in the community while taking advantage of the unique expertise these two different professions possess, allowing them to work together, learn from each other, and ultimately provide optimal care for persons of the community struggling with mental illness. One of the long-term goals of this collaboration is to provide a model for other communities throughout the country to implement to address similar issues they face.

### **No. 30**

#### **Impact of COVID-19 on Assertive Community Treatment (ACT) From March 2020 to February 2021 in Bronx, NY**

*Poster Presenter: Neda Motamedi Ghahfarokhi  
Co-Author: Sasidhar Gunturu*

#### **SUMMARY:**

**Introduction:** Patients with serious mental illnesses (SMI) have higher rates of metabolic illnesses, cardiovascular and respiratory disease, as well as social deficiencies such as poor housing, and limited support systems. This makes them vulnerable to relapses, symptom exacerbation, and a wide range of negative health and psychosocial outcomes especially during the COVID-19 pandemic. However, having appropriate strategies to address their needs and adequate accessibility to mental and medical health care services, can decrease the rate of

psychiatrically/ psychological and medical decomposition and save their life. The outreach to the patient with SMI during the pandemic was very challenging. Assertive Community Treatment (ACT) is an evidenced-based practice that offers treatment, rehabilitation, and support services to individuals that have been diagnosed with SMI. The COVID-19 pandemic caused an increase in the difficulty of accessing to ACT services as well. The current study evaluates the impact of COVID-19 on ACT services from March 2020 to February 2021 in NYC. Our aim is to make recommendations that would develop some interventions and action plans to improve ACT services during crisis. **Method:** This is a retrospective study on patients who are followed by Bronx ACT team affiliated with the Institute for Community Living (ICL) in NYC from March 2019 to February 2021. The study compared the number of hospitalizations and the number of visits in March 2019- February 2020 (pre- Covid-19 period) to March 2020- February 2021(Covid-19 period). Data analyzed with SPSS. **Result:** 68 patients were included in the study. A total of 311 hospitalizations registered. 189 from March 2019 to February 2020 and 129 from March 2021 to February 2021 which shown statistically meaningful decrease (P-value 0.026). A total 7968 Visits registered. 4201 from March 2019 to February 2020, 100% in person visit and 3767 from March 2021 to February 2021, 51% tele-visit and 49% in person visits, which is statistically not meaningful (PV>0.05).

**Discussion/Conclusion:** Our study demonstrated that if essential services are defined and maintained while promoting staff resilience and wellness, along with giving psycho-education to patients and their family members, the rate of hospitalization in SMI patients during the Covid-19 pandemic can be reduced and these patients can remain healthy in the community. It's also important to reiterate that Tele-health played a critical role to provide ACT services while lowering the patients and the healthcare-providers' risk of Covid-19 infection.

### **No. 31**

#### **Inadequate Access to Care Causing Involuntary Nonpsychiatric Medical Admits in Acute Psychiatric Hospitals**

*Poster Presenter: Steven Alec Zane*

Co-Authors: Alan Xie, Jessie E. Margolis, M.D., Bruce D. Fox, M.D.

#### **SUMMARY:**

**Introduction:** Patients with behavioral disturbances stemming from non-psychiatric medical issues are routed into involuntary psychiatric hospitalization for mood stabilization. Due to a lack of community resources and inadequate access to a neuropsychiatric evaluation in the emergency department, these patients are channeled into acute psychiatric inpatient care. Failure to address these medical issues early on in the hospital course may impact a patient's length of stay and outcomes.

**Methods:** Clinical data from an inpatient psychiatric hospital was collected from 6 patients who were admitted with non-psychiatric medical issues. Demographic information, involuntary criteria for admission, duration of stay, diagnosis, comorbid conditions, and treatment response were recorded. All patients were admitted to acute psychiatric care at the St. Joseph's Behavioral Health Center, Stockton, CA, USA. **Results:** Six patients (age range: 33-73, 4 pts =53 years; 4 males, 2 females) were admitted in the acute psychiatric facility with behavioral disturbances stemming from non-psychiatric medical issues. "Danger to Self" (3/6), "Gravely Disabled" (2/6), and "Danger to Others" (1/6) were used as criteria for involuntary holds. Medical diagnoses include two cases of dementia, neurosyphilis, a new-onset seizure disorder, a neurovascular condition, and an unspecified neurocognitive disorder. Eighty three percent of the patients were brought in by family or on the insistence of family. Duration of the stay ranged from 0-17 days with a median length of 1 day. None of these patients showed any psychotic, manic, or depressive symptoms during their stay. Half of the patients were discharged back to a general medicine unit, and half were given neurology outpatient follow-up. **Conclusion:** These cases illustrate the importance of proper neuropsychiatric evaluation prior to psychiatric admission. In the absence of additional provided resources to address patients' underlying neurological and medical comorbidities, patients may experience less benefit from acute psychiatric hospitalization as well as prolonged lengths of stay. Cases may be a reflection of a larger lack of community resources or access to care. A

community-based behavioral health intervention should be developed to manage challenging behaviors in these cohorts of patients.

#### **No. 32**

#### **Trauma-Sensitive Mindfulness: What Psychiatrists Need to Know**

*Poster Presenter: Andrea Birnbaum, M.D.*

#### **SUMMARY:**

This poster engages psychiatrist viewers in a discussion on the emerging topic of "Trauma-Sensitive Mindfulness," highlighting the framework provided by Trauma-Sensitive Mindfulness: Practices for Safe and Transformative Healing (Treleaven & Britton 2018).<sup>1</sup> This poster outlines specific "best practices" that psychiatrists can implement when introducing mindfulness meditation (MM) with traumatized patients. As MM has become increasingly popular, many psychiatrists encourage their patients to download MM apps for practicing at home, and some psychiatrists teach their patients brief MM exercises. Academic psychiatry department websites often include a page about recommended MM apps.<sup>2,3,4,5</sup> Psychiatrists may assume nothing could go wrong in recommending MM. While MM might appear to be harmless, for trauma survivors MM can aggravate symptoms of traumatic stress, resulting in retraumatization.<sup>6</sup> Trauma survivors are often terrified of their memories, and when asked to pay mindful attention to their internal experience, this can result in overwhelm. At the same time, MM can also be a valuable resource for trauma survivors. Research shows that MM can strengthen body awareness, enhance present-moment awareness, regulate arousal, boost attention, improve emotional regulation, increase self-compassion, and support stability in the midst of traumatic symptoms, all vital aspects of trauma recovery. Part of being a trauma-sensitive psychiatrist is recognizing the ubiquity of trauma. Many patients have endured life-threatening traumas yet may not currently meet criteria for PTSD. Moreover, many patients experience the ongoing traumatic effects of systemic oppression, such as racism<sup>7</sup> and transphobia,<sup>8</sup> and it is essential that psychiatrists validate this trauma. If a patient tells their psychiatrist that they



experienced a recent racist microaggression, and the psychiatrist quickly tries to “fix” their suffering with a MM exercise, this invalidates the patient’s pain, worsens the rapport, and decreases the chance that the MM exercise will be helpful. If a psychiatrist chooses to incorporate MM into their clinical practice, it is the psychiatrist’s responsibility to be informed about the potential harm MM presents to people who are grappling with traumatic stress. By implementing trauma-sensitive MM modifications, psychiatrists can increase the effectiveness of their interventions and prevent retraumatization. In viewing this poster, psychiatrists will learn various “best practices” in trauma-sensitive MM that they can bring to their patient care.

### **No. 33**

#### **“I’m Giving Birth!” The Neuropsychiatric Presentation of a Patient With Bartonella Infection.**

*Poster Presenter: Ali Kalam*

*Co-Authors: Marlee Madora, Michelle Prakash, Meghana Medavaram*

#### **SUMMARY:**

**Introduction:** Bartonella is an intravascular gram-negative bacterial pathogen that can be transmitted to immunocompetent hosts through arthropod vectors and is associated with cat exposure and homelessness. Since the 1990s, Bartonella has become easier to diagnose through more sensitive diagnostic techniques and is now recognized as a cause of culture-negative endocarditis and neuropsychiatric symptoms. **Case:** We present the case of a 49-year-old female, undomiciled for twelve years, with a past medical history of poorly controlled hypertension who presented with a delusion of pregnancy. She was psychiatrically hospitalized five months prior for psychosis and treated briefly with antipsychotics yet did not have any longstanding psychiatric history. She was agitated, illogical, with somatic delusions of parturition, and auditory hallucinations. The patient scored a 15/30 on a Mini-Mental Status Exam revealing impaired memory, object recall, repetition, and concentration. A comprehensive work-up for new-onset psychosis revealed subacute infarcts in the right temporal lobe and left thalamus with an elevated erythrocyte sedimentation rate. On

investigation for stroke, the echocardiogram showed a vegetation on the aortic valve yet she remained hemodynamically stable, afebrile, and blood cultures were negative. Culture-negative endocarditis labs showed positive serology for Bartonella quintana and henselae, indicating a Bartonella infection. The patient’s neuropsychiatric symptoms greatly improved after two weeks of appropriate antibiotics for Bartonella endocarditis and risperidone.

**Conclusion:** Bartonella infection may cause psychosis through various mechanisms, including embolic stroke from endocarditis and bacteremia. Bartonella-associated neuropsychiatric symptoms are notable for expressive aphasia, word substitution errors, impaired repetition, and delusions. Psychiatry, Neurology, Rheumatology, and Infectious Disease teams must collaborate to uncover the etiology and determine the evidence-based treatment needed in these challenging cases. While antipsychotics can improve acute agitation and psychosis, the role of long-term use in this patient population must be further studied. Clinicians should inquire about housing status and cat exposure in patients with new-onset psychosis of difficult to determine etiology. Given the frequent concurrence of homelessness in patients with psychotic illness, consideration of Bartonella infection is an important etiologic consideration for psychiatrists to be aware of.

### **No. 34**

#### **A Case of Stroke Causing Agitation and Confabulation**

*Poster Presenter: Sarah Cousins, M.D., Ph.D.*

*Co-Authors: Jason Shugoll, M.D., Anne Louise Stewart, M.D.*

#### **SUMMARY:**

**INTRODUCTION:** Consultation liaison psychiatrists are frequently consulted for agitation in medically complex patients and, therefore, must consider the psychiatric manifestations of these comorbidities. We present a case of a patient who presented with unexplained aggression and confabulation ultimately found to be due to stroke. **CASE:** 58 year old female with past medical history of type 2 diabetes, hypertension, chronic kidney disease, renal cell carcinoma post right nephrectomy ten years prior,

and myocardial infarction three years prior presented with agitation and confusion after recent job loss. Labs and imaging were consistent with history of hypertension and diabetes but did not identify a clear etiology. Magnetic resonance imaging (MRI) brain was pending. A code stroke was called that morning but no focal deficits were identified. The consulting team was concerned for psychiatric conditions such as conversion or panic attacks brought on by recent job loss. On interview, the patient could not recall events from the days prior and misreported biographical information such as whether her father was living and whether she was an active smoker. She confabulated events she believed occurred in the days before hospitalization, initially giving the impression of hallucinations and disorganized thought process. Delirium was ruled out based on intact concentration, attention, and normal Mini Mental State Exam (MMSE). Given her presentation of agitation not related to psychiatric illness, primary cognitive problems, acuity of onset, no previous psychiatric history, no mood or psychotic symptoms, no family psychiatric history, and many vascular risk factors for stroke or seizure, a primary psychiatric illness was low on the differential and MRI was recommended. MRI results ultimately showed acute infarcts in the posterior circulation, most notably in the left cerebellum and left anteromedial thalamus. **DISCUSSION:** This case adds to current sparse literature showing that even when prominent symptoms do not localize on neurological exam, stroke, particularly in the thalamic and cerebellar regions, should remain in the differential for a patient with acute onset agitation, cognitive impairment, and no history of psychiatric illness. Anterior thalamic strokes can cause amnesia with particular disorganization of autobiographic memory (1), with unilateral infarcts on the left side associated with acute anterograde amnesia and verbal recall impairment (2, 3). Paramedian thalamic strokes are associated with disinhibition, personality changes, and changes in level of consciousness (1). Cerebellar strokes, which are classically associated with deficits in coordination and motor control, can also cause deficits in memory, attention, executive function, and affective control (4, 5) when they occur in posterior lobe regions. Our poster will include a

table of psychiatric manifestations of stroke and corresponding localizations.

### **No. 35**

#### **Antipsychotic Induced Hypothermia**

*Poster Presenter: Shashi Prabha, M.D.*

*Co-Authors: Ram Abhishek Sharma, M.D., Subani Maheshwari, M.D.*

#### **SUMMARY:**

**INTRODUCTION:** Hyperthermia is a well-known adverse effect of antipsychotics. Hypothermia is rare, unpredictable and a life-threatening adverse effect of antipsychotic drug (APD) use<sup>1</sup>. Until 2018, about 28 case reports on APD induced hypothermia have been published in scientific journals, about 591 cases declared to FDA and 480 cases declared to WHO indicating that APD induced hypothermia is much more frequent adverse effect than what has been reported<sup>1</sup>. Most of the reported cases were mild but fatal cases have also been reported<sup>2</sup>. **CASE REPORT:** 59 year female with past medical history of schizophrenia on quetiapine and chlorpromazine, hypothyroidism, seizure disorder, chronic kidney disease, hypertension, hyperlipidemia brought presented to ED from an outside hospital facility (OSH) with altered mental status (AMS) and hypothermia. She was evaluated by a neurologist at the OSH, AMS and hypothermia was suspected to be antipsychotic induced and dose taper was initiated at the OSH. Both chlorpromazine and quetiapine had been reduced. On presentation: Vital Signs were: T: 32.4(Rectal), HR: 62, BP: 139/84, SPO2 97% RA. Lab: creatinine 2.03(baseline 1.8), TSH 13.44, FT4:0.6, Ammonia:43, valproic acid level: 44, levetiracetam level: 33.6. Morning cortisol 14.1, CXR, CT head and chest: unremarkable. Evaluated by Neurology, Nephrology and Endocrinology. Hypothermia was attributed to psychotropic medications and hypothyroidism. Clinical management included bair hugger, further taper of chlorpromazine and increasing levothyroxine. Patient's mental status improved with normalization of body temperature, and she was discharged after five days. **DISCUSSION:** Hypothermia is defined as a core body temperature <35°C. APD induced hypothermia a rare but life-threatening event. Olanzapine, Risperidone and Haloperidol have most commonly been associated

with hypothermia, however 14 other antipsychotics including chlorpromazine and quetiapine have also been reported to be associated with hypothermia<sup>2</sup>. Hypothermia associated with APD is mostly mild, has been reported mainly in men with schizophrenia, however fatal cases have been reported<sup>2,3</sup>. Risk of hypothermia is highest during 7 days of initiation or increase in dosage of APD; however cases have been reported after years of being on APD. Predisposing factors include - combination with other antipsychotics and sedatives, organic disorders like such as hypothyroidism, age >70y. Dopamine and serotonin play a role in thermoregulation which is affected by APD, causing hypothermia. Treatment<sup>1,2,3</sup> include symptomatic management and discontinuation or dose reduction of offending medications. **CONCLUSION:** Clinicians should be aware of APD induced hypothermia and monitor body temperature particularly during initiation of APD use. Mild hypothermia can be easily missed leading to severe hypothermia.

#### **No. 36**

##### **Electroconvulsive Therapy for Refractory Neuropsychiatric “Long COVID-19” Symptoms: Two Case Reports.**

*Poster Presenter: Daniel Michael Tuinstra, M.D.  
Co-Authors: Brian Nixon, Jessica O'Mara, D.O.*

#### **SUMMARY:**

In the absence of systemic data, we present two cases of robust response to acute series electroconvulsive therapy (ECT) for two psychiatrically hospitalized females with COVID-19 related treatment resistant neuropsychiatric symptoms of severe psychosis, depression, and anxiety. We are not aware of any other such published reports and offer these examples as some initial evidence for possible inclusion of ECT for treatment of COVID-19 related treatment resistant neuropsychiatric symptoms.

#### **No. 37**

##### **Incidence Rate of Catatonia Prior to and Subsequent to the COVID-19 Pandemic**

*Poster Presenter: Katrina Monta  
Co-Authors: Nicholas Adamo, M.D., Syed Ammar, M.D., Helen Wonjai Kim, B.A.*

#### **SUMMARY:**

COVID-19 presents in affected individuals with a wide array of clinical symptoms and syndromes, including a number of neuropsychiatric manifestations. There are numerous reports about COVID-19 patients either with or without previous psychiatric disorders who have developed delirium, fatigue, anxiety, depressed mood, and psychosis. Among the rarer neuropsychiatric complications seen in infected patients has been catatonia, both in its retarded and excited forms. Catatonia is a rare psychomotor disorder that also has diverse symptoms with alterations in mood, motor activity, and responsiveness. According to the DSM-5, diagnosis of catatonia requires a clinical presentation of at least 3 psychomotor symptoms, some of which include stupor, mutism, negativism, echophenomena, and stereotypy. The broad range of symptoms and presentations, including retarded vs malignant, can make the syndrome difficult to diagnose. A lethal form known as malignant catatonia with associated autonomic dysfunction can also occur and has been associated with COVID-19 cases as well. Although it has already been shown that COVID-19 is neurotropic, it is yet unknown whether a neuropsychiatric complication of COVID such as catatonia could be caused via direct CNS infection or immune-mediated response. Coronaviruses have been found in the brains and CSF of patients with encephalitis and seizures. Previous outbreaks of SARS and MERS, as well as in the 1918 influenza pandemic, have shown associations with catatonia in the acute phase of infection. 20% of catatonia has a medical cause, and of these cases 29% are due to CNS inflammation, both from infective and immune causes. In addition to direct CNS infection and immune response, multiple other factors have been proposed for the correlation of coronavirus infection and psychiatric illness, including but not limited to hypercoagulable state leading to cerebrovascular disease, hypoxia, medical interventions, and the aforementioned social factors. Additionally, the COVID pandemic itself and the resulting social isolation, decreased psychiatric resources, and widespread anxiety about the virus could also play a role in the development of catatonia. There appears to be a dramatic increase in the incidence of catatonia during the COVID

pandemic. This retrospective study will quantify catatonia incidence rates at Cooper University Hospital and provide further insight into trends and factors associated with catatonia in the 16 month period before and after March 2020, with the hope of earlier diagnosis and treatment of this potentially fatal disorder.

#### **No. 38**

##### **Challenges in the Management of Agitation and Insomnia in a Patient With Anti NMDA Receptor Encephalitis**

*Poster Presenter: Bhargav Muppaneni, M.B.B.S.*

*Co-Authors: Rachel Bigley, Jahanzeb Khan*

#### **SUMMARY:**

**Abstract:** JS is a 14-year-old Caucasian female with no psychiatric history who presented with one month history of migraine headaches, generalized weakness, myalgias, shortness of breath and fever of 101.2 F. She had grossly normal physical exam findings with normal routine labs except for mild hyponatremia and hypochloremia. MRI brain and EEG were unremarkable. On day-3 of admission to pediatric floor for suspected encephalitis, she had two episodes of generalized tonic-clonic seizures (GTCS). During the next couple of days, she developed agitation with perceptual disturbances, nonsensical speech pattern and personality changes that were out of character for her. CSF analysis revealed elevated protein and pleocytosis with lymphocyte predominance and a repeat EEG showed continuous generalized delta-slowing with occasional epileptiform discharges suggestive of encephalopathy. After extensive work up was infectious etiology was inconclusive, she was started on Intravenous Immunoglobulin (IVIG) infusion with pending CSF results for anti-NMDA antibody titers which later turned out to be positive. Patient had agitation and insomnia during the course of illness for which Psychiatry was consulted. She was started on low dose melatonin, Risperidone and Lorazepam as needed to address agitation and insomnia. Due to inadequate response, Trazodone and Clonidine were added. However, treatment team observed improvement only after Ms. JS received adequate immunosuppressive treatment that was combined with psychotropic treatment for agitation and

insomnia **Conclusions:** It's necessary for clinicians to pay close attention to red flags (CSF with lymphocytic pleocytosis or oligoclonal bands without evidence for infection, epileptic seizures, faciobrachial dystonic seizures, suspected NMS, MRI abnormalities (mesiotemporal hyperintensities, atrophy pattern) and EEG abnormalities (slowing, epileptic activity or extreme delta brush) and screen for anti-NMDA receptor encephalitis in first episode psychosis in adolescent females . Second generation antipsychotics (SGAs) with low dopaminergic potential are preferred to address agitation and avoid extrapyramidal side effects. Optimal control of insomnia and agitation could be achieved when immunosuppressive treatment is combined with psychotropic treatment in a timely manner. We recommend avoiding antipsychotics during catatonic phase as it could worsen mental status and during orofacial dyskinesias as the clinical course could mimic Neuroleptic Malignant Syndrome (NMS) induced by SGSs and further confound the clinical picture. <hr align="left" class="msocomoff" size="1" width="33%" />

#### **No. 39**

##### **New-Onset Parkinsonism in a Patient With Metastatic Gastrointestinal Stromal Tumor Treated With Avapritinib**

*Poster Presenter: Kayla Jean Schenheit, M.D.*

*Co-Author: Jessica Molinaro, M.D.*

#### **SUMMARY:**

Gastrointestinal stromal tumors (GISTs) are mesenchymal neoplasms most often located in the stomach and small intestine that carry mutations in proto-Oncogene c-Kit (KIT) or in platelet-derived growth factor receptor alpha (PDGFRA) tyrosine kinase receptors. The most common PDGFRA mutation, the D842V mutant, is resistant to several tyrosine kinase inhibitors (TKIs) used in the treatment of metastatic GISTs and was thus associated with a poor prognosis. The NAVIGATOR study recently demonstrated the efficacy of avapritinib in treatment of PDGFRA D842V-mutant GIST. Avapritinib has a manageable side effect profile that most often includes nausea, diarrhea, and anemia. Neuropsychiatric side effects have been described in association with avapritinib, with

cognitive side effects of varying degrees being the most common. However, to the best of our knowledge, there are no case reports describing an association between avapritinib and the development of parkinsonism. We present the case of a 63-year-old male with metastatic GIST who developed rapidly progressive symptoms of parkinsonism shortly after initiation of avapritinib. Twenty years prior to current presentation, patient was diagnosed with a rectal GIST. Treatment course has been complicated by a lack of consistent follow-up and treatment adherence as well as the development of hypomanic episodes in the setting of GIST progression. He was started on olanzapine for these symptoms. The patient had no other prior psychiatric history. He was started on avapritinib after multiple failed responses to other TKIs and began to demonstrate signs of parkinsonism abruptly after six weeks of treatment. Symptoms progressed even after olanzapine was discontinued due to concern for potential neuroleptic-induced symptoms. An extensive work-up was negative for a paraneoplastic process, and the acute onset of rapidly progressing parkinsonian symptoms appears less consistent with a diagnosis of idiopathic Parkinson's disease. Given the temporal relationship between the onset of symptoms coinciding with the initiation of avapritinib and the potential for neuropsychiatric side effects associated with avapritinib, we suspect that this drug contributed to a likely multifactorial etiology underlying this patient's presentation and recommend clinicians be aware of the potential for this side effect.

#### **No. 40**

#### **Decreased Kappa-Opioid Receptor Levels in Treatment-Resistant Depression and the Effects of Ketamine Treatment**

*Poster Presenter: Brandi Quintanilla*

#### **SUMMARY:**

Over 300 million people world-wide suffer from major depressive disorder (MDD). Despite existing evidence-based therapies, one-third of MDD patients will have a suboptimal therapeutic response. The failure to respond to 2 antidepressants of adequate dose and duration defines treatment resistant depression (TRD). While

numerous etiologies likely contribute to TRD, the opioid system has been implicated in the pathophysiology of depression. Dynorphins (DYN) are a class of endogenous opioid peptides that display a high affinity for kappa-opioid receptors (KOR) and are associated with dysphoria, anti-reward states, and depressive behavior. Ketamine, a glutamatergic modulator, effectively treats TRD and acute suicidality, and studies suggest a link between opioid system activation and ketamine's acute antidepressant effects in TRD. However, ketamine's glutamatergic modulatory effect over time on DYN and KOR is unknown. Using plasma from healthy controls (n=24) and TRD patients (n=38) enrolled in an in-patient, placebo-controlled, ketamine trial, we measured DYN and KOR at baseline, 230 minutes, 1 day, and 3 days after infusion of ketamine and placebo. We hypothesized: 1) lower baseline KOR and DYN levels in the TRD group relative to controls, and 2) greater increases in KOR and DYN levels post-ketamine administration in TRD patients relative to controls. Analyses applied mixed model regressions and log transformed KOR and DYN values. Compared to controls, TRD patients had significantly lower KOR levels at baseline (TRD mean= 0.54 (SD=0.85), control mean =1.32 (SD=0.91);  $t=-3.81$ ,  $df=62$ ,  $p=0.0003$ ). In contrast, baseline DYN levels did not vary between groups (TRD mean= 1.81 (SD=0.64), control mean= 1.61 (SD=0.55);  $t=1.28$ ,  $df=61$ ,  $p=0.21$ ). There were no significant main effects of ketamine on KOR or DYN levels, and ketamine-related changes in KOR or DYN levels over time did not distinguish controls vs. TRD patients (KOR: Drug x time x diagnosis  $F=1.21$  ( $df=3,381$ ),  $p=0.31$ ; DYN: Drug x time x diagnosis  $F=0.69$  ( $df=3,378$ ),  $p=0.56$ ). Our findings identify baseline alterations in the opioid pathway that may contribute to the pathophysiology of TRD: lower KOR levels in TRD may result from KOR downregulation, KOR desensitization, or KOR altered gene expression. Ongoing studies are assessing for differential opioid responses in TRD patients based on their clinical response to ketamine. Targeting opioid system components may provide a novel therapeutic approach to TRD.

**No. 41****Integration of Psychiatric Traits Clusters Around History of Trauma and Psychosis-Mania in Hospitalized Patients With Severe Mental Illness**

*Poster Presenter: Christina Virginia Nania, M.P.H.*

*Co-Authors: Christopher Gurguis, M.D., Ana Cristina Ruiz, Tyler Kimm, M.D.*

**SUMMARY:**

Psychiatric diagnostic criteria are based on a framework which emphasizes clinical characteristics, exclusionary criteria, and diagnostic stability. Updates to the Diagnostic and Statistical Manual of Mental Disorders (DSM) include emerging etiological and neurobiological findings, however, recent research challenges the neurobiological reality of DSM classifications. For example, biological traits associated with psychosis do not parse into DSM diagnostic categories, but rather reflect distinct "psychosis biotypes." Borrowing from concepts in evolutionary biology, we examine patterns of modularity among self-report and observer-rated clinical scales. Modules are made up of distinct traits that are integrated with one another but separate from other modules. Using this framework, we searched for modules of traits in patients with major depression (MDD), bipolar disorder (BPAD), and schizophrenia and related disorders (SCZ). One possibility is that psychiatric traits form modules within DSM diagnoses. Alternatively, if psychiatric traits are integrated by latent factors (such as development, genes, function, or stress) we would expect trait modules not to reflect DSM diagnoses. We administered 11 scales to 110 patients diagnosed with MDD (N=17), BPAD (N=60), or SCZ (N=33) admitted to Harris County Psychiatric Center in Houston, TX. We constructed a correlation matrix of the total score in these scales and performed principal component analysis (PCA) to examine multivariate patterns within and among these scales. Finally, we used cluster analysis to look for distinct groups and compared these groups with DSM diagnostic categories. We identified three modules of traits with significant Pearson correlations. The first module involves strong correlations between mania and psychosis ( $r=0.79$ ). The second involves moderate correlations among subtypes of impulsivity (range of  $r=0.34-0.61$ ). The third involves moderate correlations among the Internal State

Scale, history of trauma, symptoms of PTSD, and borderline personality traits (range of  $r=0.38-0.54$ ). PCA revealed that 88% of the variation was explained by the first seven principal components. These were dominated by psychosis (loading (L)=0.97) and mania (L=0.88), depression (L=0.98), non-planning impulsivity (L=0.95), motor impulsivity (L=0.95), history of trauma (L=0.95), the Internal State Scale (L=0.95), and symptoms of PTSD (L=0.93), respectively. The three clusters produced by cluster analysis largely overlapped by visual inspection of plots of these first seven factors and distinguishing among DSM diagnoses was difficult. Our results add to growing literature suggesting DSM diagnostic categories are difficult to identify in biological data. Psychiatric traits in our analysis elaborated in two major modules: one centered on trauma and the other on psychosis and mania. Future work on modules should include other biological data such as laboratory studies on metabolic systems.

**No. 42****Homo, Homo on the Range: Improving Mental Health Care for Rural LGBTQ+ Patients**

*Poster Presenter: Chase Andrew Hiller, M.D.*

*Co-Author: Neel A. Duggal, M.D.*

**SUMMARY:**

The health of the estimated 2.9 to 3.8 million lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ+) individuals living in rural areas, comprising 15 to 20% of the total LGBTQ+ population of the United States, is an understudied area that is deserving of additional attention in the profession of psychiatry. It is well-established that LGBTQ+ populations are at an elevated risk of developing psychiatric conditions, including mood and substance use disorders. Several studies indicate that the incidence of these conditions may be more pronounced for LGBTQ+ individuals in rural areas. The impact of discrimination on poorer mental health outcomes likely explains the increased likelihood for LGBTQ+ individuals in rural areas to experience verbal discrimination and physical harassment compared to non-rural LGBTQ+ individuals. Mental health providers who can provide culturally competent and evidence-based care to LGBTQ+ patient populations

are better positioned to establish a more therapeutic alliance with patients and achieve better mental health outcomes. No comprehensive data is readily available regarding the proportion of psychiatry residents, fellows, and board-certified psychiatrists identifying as LGBTQ+ overall and by geography type (e.g., urban, suburban, and rural). However, one can reasonably infer that the trend of gravitating towards large metropolitan areas likely extends to LGBTQ+ identifying psychiatry trainees and psychiatrists. Prior to the COVID-19 pandemic, telepsychiatry has been proposed as one way to fill the mental health treatment gap for LGBTQ+ patient populations. During the COVID-19 pandemic, Kaiser Family Foundation observed that LGBTQ+ patients were more willing to use telehealth (especially for mental health services) than their non-LGBTQ+ counterparts. Improving rural LGBTQ+ populations' access to LGBTQ+ providers, both in person and virtually, is an aim that deserves additional attention. Given the health disparities, gaps in research, and areas of opportunity for improvement in healthcare delivery outlined above, we recommend the following: Increase the amount of research dedicated to understanding LGBTQ+ rural mental health issues with an emphasis on intersectional identities such as race Enhance LGBTQ+ rural health educational opportunities to attract LGBTQ+ psychiatrists across the duration of their training, and make these opportunities accessible for trainees at urban programs Promote visibility of current LGBTQ+ trainees and psychiatrists to foster an inclusive training environment, cultivate a network of LGBTQ+ providers in rural America, and improve partnerships with existing rural LGBTQ+ organizations Leverage LGBTQ+ patients' growing willingness to use telehealth by promoting telehealth options in rural settings with limited access to local LGBTQ+ health providers

#### **No. 43**

##### **Lessons Learned From DEI Book Club**

*Poster Presenter: Emily Gloria Diana, M.D.*

*Co-Authors: Courtney Elizabeth Kandler, M.D., Cecily Lehman, D.O., M.A., Johanna Fermina Paulino-Woolridge, D.O.*

#### **SUMMARY:**

**Background:** Bias affects patient care and health outcomes. Understanding cultural contexts different from one's own creates opportunities for connections professionally and therapeutically. A DEI book club is a resident-driven way to educate and challenge bias. This is different from regular didactics because there is no student/teacher dynamic. It is different from independent, self-guided learning because it creates a space to learn from how those with different lived experiences reacted to the book. This poster reviews the lessons learned of implementing this book club at the National Capital Consortium military psychiatry residency during academic year 2021 with updates from academic year 2022 after adjusting to feedback from the previous year. **Methods:** Resident leaders created goals/objectives of a DEI book club. We held a voluntary book club monthly for 1 year focused on residents to preserve the peer dynamic. We obtained basic entry and exit survey data from participants. **Results:** There were 11 participants at the beginning and 5 by the end of year. A total of 8 books were read over a 1 year period. Participants appear to have a better understanding of their own bias via pre and post survey results. Year 2 data is being collected. **Discussion:** Book club is effective in giving residents a safe space to examine and challenge personal and systemic biases. The safe space was created by an opening statement expressing goals and objectives of the session with input from participants. The club was facilitated by those who chose the book. We are currently learning and growing to improve DEI in residency and for patient health outcomes. Lessons learned include: There may be improved participation if less than 1 book per month. Book choice factors include target audience, clinical relevance, and book size. Books are often mainstream memoirs, nonfiction, or fiction in the DEI realm. Discussion is best prompted by facilitators being open about their own biases and by emphasizing that the environment is a safe space. Future directions include continuing the book club with goals of increasing participation and improving overall residency DEI ACGME scores.

**No. 44****No Patient Left Behind: Telemedicine and Access to Care**

*Poster Presenter: Ashley J. Pettaway, M.D.*

*Co-Author: Gabrielle R. Marzani-Nissen, M.D.*

**SUMMARY:**

Social determinants to health and healthcare disparities impact the care of individuals in outpatient clinics when a physical presence is required. (Butkus, Rapp, Cooney & Engel, 2020; Robenznieks, 2020). This can be due to the cost of or lack of reliable transportation, weather conditions, the logistics of child care or elder care, difficulty getting time off from work or loss of wages for missed time. The use of tele-psychiatry (as well as phone visits for those lacking access to the internet) have allowed patients experiencing these types of barriers to care to attend visits. In addition, although not always expressed to the provider, access to care can also be impacted by patients' perceptions of provider's empathy and presence. Tele-psychiatry may, in effect, create a "home visit". Being with a patient in their "element" creates an increased sense of being "seen". Being seen and understood can increase connections between the patient and their provider. Providers can meet loved ones or important members of the household, including pets. Being "seen" allows for vulnerability and an increased trust in the relationship. This increased level of trust allows for more authentic conversations which can lead to improved outcomes. (Goetter, et. al, 2019). While a discordance in gender, race and/or ethnicity between patient and provider can also sometimes create a psychological distance and impact care (Meghani, et. al. 2009; Sweeney, et. Al, 2016; Stepanilkova & Oates, 2017), telemedicine might decrease this for patients thus mitigating against delayed or missed medications and attendant complications. (Syed, Gerber & Sharp, 2013). At the University of Virginia, telemedicine appears to have impacted access for patients. This includes decreased no-show rates and increased total completed visits between 2019-2020 and 2020-2021, which correlates with implementation of tele-health related to the pandemic.

**No. 45****Patients' Experiences With Psychological Side Effects of Hormonal Contraception**

*Poster Presenter: Sarah Martell, B.A.*

*Co-Author: Allison Deutch, M.D.*

**SUMMARY:**

Approximately 250 million women worldwide use some form of systemic hormonal contraception (HC). Studies suggest that psychological and sexual side effects are among the leading causes for non-adherence or discontinuation of HC [1,2]. Although much of the existing data is either low quality or inconclusive [3,4], there has been a rise in the popularity of non-hormonal methods of birth control, in part driven by concerns over psychological side effects. To better characterize patients' experiences with HC - and more specifically, the psychological side effects of hormonal contraception - we are conducting an IRB-approved, survey-based, retrospective study. Recruitment began in June 2021 and is still ongoing. We present the interim findings here. Subjects include 163 cisgender women, six non-binary individuals, and one person with unspecified gender. Mean age of the respondents is 32 years (range 22-72). Seventy-five percent (126/169) of respondents identify as heterosexual, 22% (37/169) identify as queer or bisexual, 2% (4/169) as homosexual, and 1% (2/169) identify as asexual. In their lifetime, 85% (140/165) of subjects reported having used OCPs, 44% (73/165) having used an IUD, 10% (17/165) having used a NuvaRing, and 7% (11/165) having used a Nexplanon. Most subjects (87%, 146/167) used oral contraceptive pills (OCPs) as their first form of HC, 7% (11/167) used an intrauterine device (IUD), 7% (12/167) used Depo-provera, Nexplanon, the patch, or Nuvaring. Side effects of HC were reported by 81% (134/165) of subjects. Mood changes were reported in 42% (70/165) and loss of libido/sexual satisfaction was reported in 22% (36/165) of subjects. Other commonly reported side effects included irregular menstrual bleeding (36%, 59/165), weight gain (34%, 56/165), and acne (20%, 33/165). The most common reason for switching or discontinuing contraceptive methods was side effects (45%, 57/127). When asked which side effects of HC were most bothersome, 36% (36/102) of participants mentioned mood changes and 13%



(13/102) mentioned sexual side effects. Of those individuals who reported mood changes as a side effect, 62% (42/68) endorsed a history of psychiatric illness. Among subjects with a psychiatric history, 37% (27/73) reported that their mood symptoms worsened with HC and 10% (7/73) reported that their mood symptoms improved with HC. These findings suggest that mood changes and sexual side effects are common reasons for patients to discontinue or change contraception methods. Existing literature suggests that people with psychiatric diagnoses are particularly vulnerable to the development of psychological side effects with HC[4]. Our findings lend credibility to this hypothesis; however, given that 38% (26/68) of respondents without any past psychiatric history experienced mood related side effects, these findings suggest that even individuals without a history of psychiatric illness may still be at risk of mood-related side effects of HC.

#### **No. 46**

##### **A Care Ethics Approach to Gender Affirming Care: A Case Study**

*Poster Presenter: Fatima Bilal*

##### **SUMMARY:**

Transgender and Gender Non-Conforming (TGNC) youth, roughly 1% of adolescents in the US, have significantly higher rates of depression, anxiety, and suicide attempts as compared to their cisgender peers.<sup>1</sup> As such, it is especially crucial for mental health providers to be comfortable and proficient at providing gender-affirming care. Gender affirming care entails respect and validation of a patient's gender identity throughout treatment. This poster discusses the case of MB, transgender adolescent admitted to the inpatient psychiatric unit for suicidal ideation with a plan. MB revealed their preferred name and pronouns upon admission and cites family denial of their gender identity as the central issue driving their target symptoms. This poster discusses the utility of a Care Ethics-guided treatment plan to ensure the provision of gender affirming mental health care for the transgender adolescent.

#### **No. 47**

##### **Chief Complaint: Murder- Managing Crime Confessions in the Emergency Psychiatric Setting**

*Poster Presenter: Meghan Musselman, M.D.*

*Co-Authors: Gabrielle Limardo, Hannah Schwartz*

##### **SUMMARY:**

Due to the presence of and widespread education about duty to warn laws, many psychiatrists are knowledgeable about the appropriate steps to take when a patient reports intended dangerous conduct. Psychiatrists are often much less comfortable with how to manage patient confessions of completed criminal acts and can be left wondering what, if anything, they should do with such information. Literature on this topic is sparse, and seldom guidelines exist for psychiatrists who encounter patients that admit to involvement in a crime on patient interview. Crime confessions can be particularly anxiety-provoking in the emergency psychiatric setting as a long-term therapeutic relationship has not been established, and the possibility of substance intoxication, withdrawal, and acute psychiatric and medical issues may call into question the validity of such confessions. In this poster, we will describe the presentation and management of a patient with a history of unspecified depression, phencyclidine use disorder and multiple medical comorbidities who presented to our hospital's Crisis Response Center following a suicide attempt by overdose and subsequently confessed to murder. In the course of her encounter with the on-call resident psychiatrist, the patient reported that she killed two named people via choking and buried them in her backyard prior to her suicide attempt. In this poster, we will discuss how this case was managed in light of applicable ethical guidelines, risk considerations and state laws regarding a psychiatrist's duty, or lack thereof, to report crimes confessed by patients. We will provide an overview of state and federal laws that guide psychiatrists in how to manage criminal confessions by patients. We will offer suggestions on how to manage such cases, particularly in the emergency psychiatric setting and discuss the need for clearer guidelines on how to proceed in these situations.

**No. 48****Gender Specific Variations in Psychiatry Medicare Payment**

*Poster Presenter: Lindsay Pang*

**SUMMARY:**

The number of women in the healthcare and psychiatry workforce has increased significantly over the years. Previous research has shown that gender disparities continue to exist in the field of psychiatry. Income disparity starts with the physician's starting income has been shown to persist despite controlling for age, work hours, and academic productivity. However, less is known about the gender differences specifically in Medicare payment among psychiatrists. The data released by Centers for Medicare & Medicaid Services (CMS) regarding Medicare has allowed large-scale empiric analysis of income and practice variations among physicians. The goal of this study is to determine whether there are variations in diversity of practice, productivity, and Medicare payment between gender. A retrospective study of data summarizing payments to psychiatrists from January 1 to December 31 2019 was conducted using the CMS Physician and Other Supplier Public Use File. The public database connects Healthcare Common Procedure Coding System (HCPCS) codes submitted to Medicare to each physician's unique National Provider Identifier (NPI) number. Number of billing codes was assessed to determine diversity of practice. Number of services documented and total Medicare payment were also analyzed. In 2019, a total of 21,008 psychiatrist received Medicare payments, 13,218 (63%) were male, 7,790 (37%) were female. Females billed fewer unique codes 26,020, than men 51,984 (mean difference, -0.59;  $P < .05$ ). Females also billed for fewer services, 3,467,391 than males 9,577,809 (mean difference, -48.67;  $P < .001$ ). Females received less Medicare payment \$206,207,722 than men \$56,536,7036 (mean difference, -\$2815;  $P < .001$ ). Women psychiatrists see fewer patients and have lower Medicare collection compared to men. It would be important to assess in future research whether the differences are due to systemic inequalities, social differences, personal choices, or combination of various reasons. Limitations of the study include not being able to assess payment outside of Medicare as we do not

have the public data. In addition, reported gender in these databases are limited to male and female, although personal gender identification is often nonbinary. Additional studies are necessary to better address overall gender disparities in psychiatry and healthcare in general.

**No. 49****Impact of Language of Instruction in Psychiatry Training on Patient-Doctor Communication**

*Poster Presenter: Rida Khan*

**SUMMARY:**

**Introduction:** Psychiatry is a field where patient-doctor communication is of vital importance, manifestly more so than in any other medical field. Psychiatric training starts in medical school, often a very preliminary introduction to the field, making it all the more imperative to capture this most essential skill. We focus in our short cross-sectional study on a unique cohort of medical students in Saudi Arabia where didactics are solely carried out in English, though the patient population is almost exclusively Arabic-speaking. We posited that this specific situation may result in more complex issues in patient-doctor communication and wanted to explore the nuances of the situation, citing its importance in a population markedly underserved in psychiatry. **Methods:** A number of scaled-response questions were asked in electronic survey-format of 100 medical students who had completed a 4-week clerkship in psychiatry. The questions were selected to gauge subjective views on clinical communication skills in a theoretical and practical setting where the doctor trains in one language and communicates with the patient to another, and difficulty anticipated versus experienced. The items were geared to psychiatry and psychiatric vernacular that should be accessible at the level of a medical student. An additional section incorporated categorical items representing background stigma in psychiatry to be reported by respondents. **Results:** By appropriate rescaling of items in the 2 separate sections of the survey, responses were summed for and a total Difficulty score was obtained, as well as a total Stigma score. Statistically, there was a positive correlation between the Difficulty and Stigma scores,  $r = .345$ ,  $p = .007$ ,  $N = 58$ . There was also a positive

correlation between Difficulty and whether respondents believed that training in a different language from that used with the patient had a negative effect,  $r = .294$ ,  $p = .025$ . A weaker correlation was found for Stigma and this question,  $r = .240$ ,  $p = .072$ . Overall, responses were surprisingly skewed toward less difficulty experienced during the patient-doctor interaction. This was a noteworthy finding as most respondents had in fact agreed at the beginning that they believed there would be a negative effect on the patient-doctor interaction in the situation elucidated above. Conclusion: Our study cohort represents a younger generation of native Arabic-speakers who also have a strong command on the versatile and "global" English. Bilingualism or multilingualism may represent an underestimated advantage in terms of modern global medical practice and psychiatry no less, enhancing delivery of the most advanced and current healthcare to populations that need it. Cultural competence is also important to factor, and psychiatry's issues with stigmatization of mental illness and the field remain to be reckoned with.

#### **No. 50**

##### **Marketing Medicine for the Mind: Mental Hygiene, Neurasthenia, and Patent Drugs in Mid-1930s Shanghai**

*Poster Presenter: Richard Zhang, M.D., M.A.*

*Co-Author: Mario Fahed, M.D.*

#### **SUMMARY:**

During the mid-1930s, Shanghai, a commercially and culturally pivotal city in the Republic of China, saw a rapid expansion of its mass media and medical services. Shanghainese elites supported an international image of Chinese medico-scientific modernity through the products which they consumed and the healthcare infrastructure which they funded. Newspaper advertisements proliferated and celebrated brain-targeting patent drugs and mental hospitals. These newspaper segments reveal some of the epistemological complexity of, and social determinants involved in, translating Western psychiatric concepts into non-Western settings. This history of medicine poster presentation analyzes three such Chinese-language advertisements from 1935 and 1936 promoting a

neuropsychiatric hospital, a locally invented brain tonic, and a brain-targeting medication with German origins to highlight psychiatric knowledge's susceptibility to influences from social phenomena. Illustrative examples range from the selective, modified adoptions of historical Western concepts of mental hygiene and neurasthenia by Chinese elites, to the catering of German psychopharmaceutical marketing to Chinese cultural norms. This presentation discusses with its audience how psychiatry is not only an institution capable of improving patients' wellbeing, but also a powerful social force whose influence is nonetheless bound by social forces including politics, economics, and culture.

#### **No. 51**

##### **Social Determinants of Health and Mental Health Care Utilization: A Cross Sectional Analysis of a Nationally Representative Sample of U.S. Adults.**

*Poster Presenter: Taiye O. Popoola, M.D.*

*Co-Author: Oluwole Popoola, M.D.*

#### **SUMMARY:**

**Background:** Social determinants of health (SDOH) are "conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality of life outcomes and risks". Using nationally representative data from the 2019 Medical Expenditure Panel Survey (MEPS), we examine the relationship between SDOH domains and healthcare utilization in adults with mental health conditions. **Methods:** Analytic sample was limited to adults 18 and above with psychiatric conditions. Dependent variables were binary measures of mental health-related ER, inpatient, and clinic visits. Independent variables were binary measures of limitation in SDOH domains- "economic stability", "education access and quality", "healthcare access and quality", and "social and community context". Simple and multiple logistic regressions were conducted using Stata 14.2. **Results:** Analytic sample consisted of 3,732 adults who had at least one psychiatric condition. 53% had a mental health-related clinic visit, 3% had a mental health-related ER visit and 1.5% had a mental health-related inpatient visit. Almost 38% had a limitation in the "economic

stability” domain; these individuals either used food stamps or had poor to low family income. 15% had less than high school education, thus were considered limited in the “education access and quality” domain. About 1 in 6 had a limitation in healthcare access and quality, they were either uninsured, reported inability to afford or delay medical care due to cost. 27% lived alone and were considered limited in the “social and community context” domain. Adults with limitation in “economic stability” had increased odds of mental healthcare use (OR= 1.79 p= 0.004 for ER visits, OR= 2.00 p= 0.04 for inpatient visits, OR = 1.18 p= 0.03 for clinic visits). These associations remained significant for ER visits and inpatient visits after adjusting for age, sex, race, and limitations in other SDOH domains. Similarly, individuals with limitations in healthcare access and quality had increased odds of mental healthcare use (OR= 2.24 P= 0.001 for ER visits, OR= 1.45 p= 0.000 for clinic visits). These associations remained significant for mental health-related ER visits in adjusted regression. The associations between living alone, less than high school education, and mental healthcare utilization were not statistically significant. Limitation in more SDOH domains was associated with increased odds of mental health utilization; for ER visits (OR= 1.40 p= 0.000) and clinic visits (OR=1.16 p= 0.000). These associations were unchanged after adjusted regression. **Conclusions:** Limitations in SDOH domains were significantly associated with higher mental healthcare utilization, especially in higher-cost settings like the emergency room and inpatient units. Continued efforts to address social determinants of health will likely result in significant savings to the healthcare system.

## No. 52

### **Behavioral Health Integration in Subspecialty Pediatrics: A Needs Assessment of Models of Care**

*Poster Presenter: Sophia A. Walker, M.D.*

*Co-Author: Katherine Ort*

#### **SUMMARY:**

**Objectives:** Children and adolescents (CA's) encounter significant barriers to accessing mental health care. While there is growing recognition of the importance of integrated care to build

partnerships between psychiatrists and pediatricians, an underserved population remains those with chronic medical illness (CMI), who often identify their subspecialist as their primary care provider. As a result, many CA's may not have equal access to mental health assessment and supports, or sometimes these supports may not be adequate or appropriate for the unique complexities involved in managing CMI. **Methods:** A needs assessment was completed of the adequacy and appropriateness of collaborative and integrated care models for pediatric subspecialties, through a questionnaire of practicing CA consultation-liaison psychiatrists at academic, university-affiliated healthcare systems. Forty-one self-selected practitioners provided responses to the survey and were located at large and smaller hospital systems throughout the nation. Nineteen of responding practitioners were from free standing children's hospitals, 21 practiced within pediatric psychiatry in a larger hospital system, and one practiced solely in an outpatient setting without an affiliated hospital. All provided various services to pediatric subspecialties beyond primary care including pulmonology, nephrology, endocrinology, neurology, gastroenterology, pain medicine, palliative care, oncology, rheumatology, and less frequently developmental pediatrics, transplant, dermatology, and burn units. Programs range from a co-located care model to a true collaborative integrated model of delivery with consultative options (electronic, in-person, telehealth), bridging to psychiatric care, connection to community resources, ongoing education, and staff support. **Results:** Of all survey respondents, 95% identified need for dissemination and discussion of models of care as a primary concern, and 76% indicated development of guidelines for collaborative care models in pediatric subspecialties to be of interest. Twenty-two CA psychiatrists endorsed already having a model for collaborative/integrative care in place, 13 reported currently building a model, and 6 reported no model of care at all. Of these, 66% reported that the model in place involved co-located care, while the remainder primarily included a combination of education of pediatricians and joint visits with pediatric providers. **Conclusions:** While a limitation of this survey is that it was of a self-selected, narrow group of practitioners, the magnitude of need and dearth of supports identified

suggests that settings of medical practice outside academia and in regions with fewer resources allocated to mental health would likely exhibit an even greater need. Integrated behavioral health support is crucial to providing care for patients with CMI, and given the deficits in care, further investigation and development of these models is warranted.

#### **No. 53**

##### **Blue Lotus-Associated Epilepsy and Amnesia in Active Duty Servicemember**

*Poster Presenter: Justin D. Moss*

#### **SUMMARY:**

*Nymphaea caerulea*, otherwise known as “Egyptian Lotus” or “Blue Lotus,” is a flowering plant that possesses two psychoactive compounds, apomorphine and nuciferine<sup>1</sup>. Blue Lotus has recently been abused by Active Duty servicemembers<sup>2</sup> for its hallucinogenic properties and inability to be detected on routine drug screens. Due to Blue Lotus’ unregulated status in the United States, it can easily be purchased online. While previous reports of electrolyte derangements have been reported, we present a novel presentation of Blue Lotus-induced epilepsy not yet seen in the literature. **CASE REPORT:** A 22 year-old active duty man was found down by his roommate and taken to the local emergency department, where he had a witnessed tonic-clonic seizure. Seizure was aborted with Ativan, and he was transferred to a higher level of care. On arrival, his neurologic exam was notable for akathisia, retrograde and anterograde amnesia, and dysarthria. He also developed an acute kidney and injury. While hospitalized, he had two additional generalized tonic-clonic seizures and was started on Keppra with recommendation to discontinue use of Blue Lotus. A thorough workup that included a urine drug screen, EtOH, lumbar puncture, imaging, and EEG showed no abnormalities. The patient later disclosed that he had been vaping approximately 5mL/day of “Blue Lotus” for the past three weeks. He obtained the drug from another active duty servicemember, but did not know where it originated. Several days into admission, with no additional Blue lotus consumed, the patient experienced another seizure. **CONCLUSIONS:** Blue

Lotus is easily obtained, undetectable by routine drug screen, and has the potential to provoke seizures, retrograde amnesia, and akathisia in an otherwise young and healthy individual. Recognizing these devastating drug complications is critical for medical providers to provide appropriate care.

#### **No. 54**

##### **Emotional Learning in Alzheimer’s Dementia: A Case Report**

*Poster Presenter: Pooja M. Vora*

#### **SUMMARY:**

Alzheimer’s dementia is a life-changing and debilitating disease of cognition and memory that affects both the patient and their loved ones. As the disease progresses, patients have increasing difficulty with learning and memory retrieval. Loved ones often struggle to decide if an emotional event, such as the death of a family member, should be shared with the patient with Alzheimer’s Dementia (PwAD). Highly emotional events can cause significant distress in both the PwAD and their families because it is unclear how the patient will respond, and importantly, if the patient will remember the news. Although there is a significant body of evidence about the effect of emotion on memory encoding and recall in the general population, this effect in PwAD is greatly understudied. There is little in the literature that explores this idea, but case reports suggest that in dealing with the death of a spouse, PwAD are usually unable to maintain memory of the event, causing them to experience confusion, cyclic re-traumatization, and/or worsening psychotic symptoms. Furthermore, in the minority who were able to maintain the memory that their spouse was gone, it was theorized that the ability to remember stemmed primarily from the disruption to routine. We present a case detailing the role of emotional learning in a patient with Alzheimer’s Dementia. Our patient had severe cognitive and memory impairment, evidenced by Mini-Mental Status Exam (MMSE) and Memory Impairment Screen (MIS) scores of 10 and 2 respectively, as well as a requirement for 24/7 caregiver assistance to maintain basic Activities of Daily Living (ADLs). This patient, who was unable to create new memories due to the severity of his

dementia, surprisingly demonstrated the ability to both understand and recall the news of the death of his adult child. The findings from this case suggest that the role of emotion in learning may represent an additional variable in the observed degree of cognitive impairment in PwAD, and thus, additional research is required to assess the impact of emotional learning in this population.

#### **No. 55**

##### **Lennox-Gastaut Syndrome: A Case Report and Literature Review**

*Poster Presenter: Gurraj Singh*

*Co-Author: Akshita Lalendran, M.D.*

##### **SUMMARY:**

**Introduction:** Lennox-Gastaut syndrome (LGS) is a severe epileptic and developmental encephalopathy characterized by multiple seizure types; abnormal findings on electroencephalography that present in children between the ages of 1 and 8. Patients may have a variety of genetic abnormalities or cortical lesions, and in about 25% of patients the underlying cause is unknown. Current data suggests that *CACNA1A* loss-of-function mutations and missense mutations are the source of the epileptic encephalopathies, such as LGS. EEG shows an interictal diffuse pattern, slow spike-wave complexes (<3Hz), occurring during wakefulness, and widespread cortical recruitment during epileptic activity. Daily seizures are typical and persistent in 60–80% of cases, and management of seizures in these patients presents a clinical challenge. Neurocognitive disorders, specifically Intellectual Disability affects 20-60% of patients at the onset of seizures, and increases to 75-95% within 5 years. However the co-morbid prevalence of ASD and ADHD is found to be significantly lower. **Case Presentation:** A 19-year old man presented to the emergency department for aggressive behavior at home. Patient has a history of seizure disorder, impulse control and intellectual disability; medical history of LGS and hyperlipidemia; a surgical history of brain resection at age 10. On assessment, the patient was incoherent, mostly nonverbal, unable to express and communicate the circumstances leading to admission. He was sent for a medical evaluation after he had an episode of breakthrough tonic-clonic

seizure. The patient was evaluated during an extended pediatric ICU stay. He was started on oral Keppra, oral Clobazam, Zonisamide, Lacosamide, Brevia, and Ativan. He was subsequently admitted to the inpatient psychiatry unit for observation and management. The patient was noted to exhibit breakthrough seizures continuing for more than 15 minutes, with gargled breath sounds and apparent respiratory distress. He was stabilized medically, and received speech, physical and occupational therapy during his inpatient hospitalization. **Discussion:** LGS is a rare childhood epileptic disorder, making it difficult to manage for physicians and families alike. He continued to experience recurrent breakthrough seizures and lack of impulse control. In a study observing patients with LGS who were on a ketogenic diet, found reduction in seizures. In a randomized control trial of children and adults who had cannabidiol added in their antiepileptic regimen witnessed a reduction in drop-seizures. Therefore, it is important to understand the complexity in trying to provide symptomatic relief to LGS patients. Despite seeing the majority of cases lead to moderate - to - severe cognitive impairment within the first 5 years, targeting LGS and its surrounding neurocognitive problems individually and holistically, can improve the lives of the patients, but also in the lives of their families.

#### **No. 56**

##### **Giving Neurons Relaxation After Hyperactivity: A Case Report and Literature Review of Post Ictal Catatonia**

*Poster Presenter: Souparno Mitra, M.D.*

*Co-Author: Akshita Lalendran, M.D.*

##### **SUMMARY:**

Background: Catatonia is a common psychiatric manifestation of multiple diagnosis such as Schizophrenia and Mood Disorders. It presents as a symptom cluster of psychomotor and behavioral symptoms such as automatism, negativism, waxy flexibility, echolalia amongst others. Papers have alluded to the existence of Schizophrenia like Psychosis (SLP) in patients who have Epilepsy, especially, Frontal and Temporal Lobe Epilepsy. However, very few papers talk of the occurrence of catatonic features in a patient in the post ictal

period. **Materials and Methods:** In our poster, we will present a case of catatonia following the onset of a seizure and will also review existing literature which alludes to the topic. **Case Report:** Our patient is a 58-year-old male with current psychiatric diagnoses of Dissociative Amnesia, Diabetes Type II and Hypertension who was sent to the medical unit after he was found unresponsive by nurse staff. He was noted to be having a seizure with rapid twitching of eyelids and uncontrolled movement and appeared post-ictal afterwards, including having no memory of the episode. **Discussion:** Studies have alluded to Frontal Lobe Epilepsy (FLE) and Temporal Lobe epilepsy (TLE) to correlate mostly with SLP. Adachi et al, found that FLE correlated more with the hebephrenic presentation of blunted affect, disorganized thought and asociality while TLE corresponded more with paranoia, hallucinations and delusions. However, their study found limited occurrence of catatonic features. Catatonia has been found to be associated with unique findings on imaging. PET Scans have shown frontal and temporal hypometabolism. MRI has found white matter abnormalities. SPECT Scans also showed frontal and temporal hypometabolism. Given the changes seen by Adachi et al as well as the findings on imaging in catatonic patients, it could be assumed that epilepsy, especially in the frontal and temporal region may lead to catatonic features. However, our literature search found limited data about post and inter ictal catatonia. **Conclusion:** Further research into functional imaging in catatonia and the impact of seizures in FLE and TLE may further validate this finding. This may have treatment implications as Benzodiazepines are the preferred treatment modality for catatonia and seizures.

#### **No. 57**

#### **Kratom-Induced Psychiatric Decompensation: A Case Report**

*Poster Presenter: Souparno Mitra, M.D.*

*Co-Authors: Eric Garrels, M.D., Panagiota Korenis, M.D.*

#### **SUMMARY:**

**Introduction:** Kratom (*Mitragyna speciosa*) is an herb found in South East Asia belonging to the Rubiaceae family, the active constituents being

Mitragynine and 7-hydroxymitragynine. Sold as a dietary supplement in the form of a leaf, tablet, and powder, it has been gaining popularity as a natural supplement to alleviate pain, anxiety, depression and manage opioid withdrawal symptoms. Awareness of this substance increased after the Center for Disease Control (CDC) found that poison control centers reported significant increase in Kratom-related incidents between 2011 and 2015. Of the 660 calls received 49 were classified as major and life-threatening with some residual disability. Individuals with Intellectual Disability (ID) or Borderline Intellectual Functioning are at risk of developing co-morbid substance use disorders. Studies have found the prevalence of substance use in the ID/BIF population to be 6-98.4% for tobacco, 2.5-97.3% for alcohol, 50% for cannabis and 19.2% for stimulants. Our case report centres around a patient encountered with high dose Kratom use who presented to our Psychiatric ER with psychosis. **Methods:** A Case Report was prepared on this patient admitted to the inpatient psychiatry unit. PubMed was searched for the criteria Kratom AND Intellectual Disability, with a secondary search for Kratom AND Psychosis. **Case Report:** The patient is a 29-year-old male with a past psychiatric history of Schizoaffective disorder, Borderline Intellectual Functioning, Polysubstance Use, Attention Deficit and Hyperactivity Disorder, Anxiety, and six prior suicide attempts. He was brought to the Psychiatric ED by ambulance activated by his mother for aggressive and disorganized behavior in the context of medication non-compliance. Due to the nature of his decompensation, his mother provided further history. She endorses patient was compliant with his medication and behaving at his baseline. He then bought and ingested 270 pills of Kratom over the course of three days, becoming floridly psychotic, staring at the ceiling, writing violent notes in his phone, stabbing and scratching the walls with a knife. On the inpatient psychiatry service he was started on his home medication regimen of Olanzapine, Valproic Acid, Sertraline, Mirtazapine, and Clonazepam. Due to the patient's history of multiple antipsychotics and partial response to Olanzapine, he was started on Clozapine. He gained fair insight and was discharged to a step-down program in the community for continuation of care.

**Discussion:** This case report further increases awareness of the dangers of Kratom use as well as brings to light the psychoactive properties of Kratom. It is known that Kratom has the potential to cause psychosis, but case reports are rare and mechanisms are poorly understood. This case exposes areas where research can further expand understanding regarding the impacts Kratom can have on psychiatric populations.

#### **No. 58**

##### **My Silence Says It All: A Case Report and Literature Review of Catatonia in First-Episode Psychosis**

*Poster Presenter: Souparno Mitra, M.D.*

*Co-Authors: Samuel Rothman, Yarden Segal*

#### **SUMMARY:**

Background: Catatonia is a severe psychomotor syndrome associated with various psychiatric and medical conditions, and is studied most in psychiatric patients. In Schizophrenia rates have been found in the range of 1% to 50%. It can present as a cluster of psychomotor and behavioral symptoms such as automatism, negativism, mutism, waxy flexibility, echolalia amongst others. Motor symptoms and catatonia can be seen in psychosis, but little literature exists on first episode psychosis (FEP) presenting with the motor cluster of catatonia. Case Report: Mr X is a 24-year-old male without prior medical or psychiatric history who presented to the emergency room in a catatonic state, with immobility, mutism, staring, catalepsy, rigidity, withdrawal and negativism. Subsequently, he required transfer to inpatient psychiatry. After resolution of catatonia, patient continued to elicit delusional thoughts, internal preoccupation and paranoid ideation. As of date of submission, he is still on the inpatient unit. Discussion: Studies have alluded to motor symptoms being present in FEP, however, significant epidemiological data was not found in the literature. Motor symptoms have been typically considered as a neurological side effect of antipsychotic medication; however, studies show that catatonia is present in many drug naïve patients. Cuesta et al studied 100 antipsychotic-naïve FEP patients undertaking extensive motor evaluation including symptoms of catatonia, parkinsonism, dyskinesia, akathisia and neurological

soft signs. Patients were followed up over years to track correlation of motor symptoms with disease outcomes. It was observed that early catatonic signs and dyskinesia at drug-naïve state were significantly associated with poor long-term psychosocial functioning. Having more data about catatonia in psychosis has implications for treatment. Benzodiazepine and Electroconvulsive Therapy (ECT) are first line treatments, however antipsychotic medication remains an area to be studied regarding risk versus benefits for alleviating psychotic symptoms, while potentially increasing the risk for serious consequences such as Neuroleptic Malignant Syndrome (NMS). Peralta et al studied 189 antipsychotic naïve patients with motor signs treated with a 4 week course of antipsychotics. They demonstrated improvement in motor signs for patients with abnormal involuntary movement, hypokinesia, retarded catatonia, excited catatonia, and echo phenomena. Conclusion: Further research into the etiology of catatonia is warranted as well as its relationship with other motor symptoms and action of neurotransmitters (GABA, Serotonin, Dopamine). This will have treatment implications as current first line treatment includes benzodiazepines and ECT; Treatment with antipsychotics remains controversial, with evidence supporting and negating its efficacy and possibility of inducing NMS.

#### **No. 59**

##### **Obsession and Compulsive Behaviors as Sequela of Herpes Simplex Virus Encephalitis**

*Poster Presenter: Maureen Cassidy, M.D.*

*Co-Author: Yu Dong*

#### **SUMMARY:**

Introduction: Herpes Simplex Encephalitis (HSE), is the most common infectious causes of encephalitis and has a potentially fatal course. The acute phase is well studied for neuropsychiatric symptoms including paranoia, hallucinations, and affective symptoms. However neuropsychiatric symptoms also commonly persist as sequela and are less well documented. We present a case of refractory OCD symptoms after most acute Herpes simplex encephalitis symptoms have subsided. Case: This is a 64-year-old female with no previous psychiatric history who presented for outpatient psychiatric



consultation, at the urging of her husband, for persistent symptoms of obsession, compulsion and cognitive impairment which started after Herpes Simplex Virus Encephalitis. She had HSV encephalitis 3 years ago with visual hallucinations, confusion, and amnesia in the period of acute encephalitis. After the hospitalization for encephalitis, she had prolonged retrograde amnesia and could not remember family members or childhood events. Notably, MRI conducted one year after acute encephalitis demonstrated encephalomalacia in both temporal lobes, left greater than right. In the three years since, her amnesia has improved significantly. However, she continues to be preoccupied with cleanliness and order. She developed new concerns about dust and water in the house and uncomfortable furniture, which has not remitted with repeated cleaning, or replacing the furniture. Tasks which were previously completed without difficulty, such as cooking, now take hours long to complete tasks in the order she desires. She has perseverated on these new concerns to the point that it has strained her marital relationship. She also demonstrates anosognosia or complete lack of insight. Discussion: This case illustrates neuropsychiatric sequela in patients with a history of HSE and highlights the potential impact on quality of life. In this poster we will review the literature on both the acute psychiatric symptoms of HSE, as well as the less well documented neuropsychiatric sequela. We will also examine the neuroanatomical associations with psychiatric sequela.

**No. 60**  
**Possible Abdominal Epilepsy in a Patient With Psychogenic Non-Epileptic Seizures: Can Lightning Strike Twice in the Same Patient?**

*Poster Presenter: Mohamad Souheil El Zein, M.D.*  
*Co-Author: Madeleine O'Brien*

**SUMMARY:**

Miss R. is a 28-year-old woman with a past psychiatric history of psychogenic non-epileptic seizures who presents to the emergency department for abdominal pain. She was later noticed to exhibit dystonic-like tremors, most notably pelvic thrusting movements with lordotic arching of the back, alteration in level of consciousness, paresthesia and

migraine-like symptoms. This patient has been presenting to the emergency department multiple times over the years for various complaints of abdominal pain and thrashing movements. A comprehensive medical workup was unremarkable. The patient's stereotypical movements with decrease in level of attentiveness, with the ability to follow commands and answer questions during the episode can suggest psychogenic non-epileptic seizures (PNES), especially in the presence of forward pelvic thrusts. However, the question is, could her chronic abdominal pain and discomfort be abdominal seizures (AE) on top of PNES? Epileptiform abnormalities on EEG in addition to a favorable response to antiepileptic medications can strongly suggest the diagnosis of AE, so EEG should be included in the workup of chronic vague paroxysmal abdominal pain in the presence of a strong clinical suspicion of AE, especially in a patient with a history of PNES.

**No. 61**  
**When Waxing and Waning Mental Status Is Not Delirium: A Case Report and Literature Review of Peduncular Hallucinosi**

*Poster Presenter: Amandeep Singh, M.D.*

**SUMMARY:**

Mr. S., a 77-year-old African-American male combat veteran with a past medical history of CAD s/p 3 vessel CABG and hypertension, and no past psychiatric history except for recently diagnosed Post Traumatic Stress Disorder, was admitted to the general inpatient psychiatric ward for new onset "flashbacks". The symptoms started one month ago, and the patient denied any history of other symptoms of PTSD such as nightmares, exaggerated startle response, or paranoia. The patient was admitted to a geriatric psychiatry unit for several weeks during the last month where he was diagnosed with PTSD and started on several medications including antipsychotics, antidepressants, and hypnotics. There was no resolution of symptoms after discharge from that unit, so patient re-presented to the VA for further care. Once admitted, the patient was reported to experience hallucinations of animals such as deer or alligators outside his window and even ducks in the

hallway that he was witnessed playing with. In the morning, patient would have no memory of the nighttime disturbances and was generally fully oriented, albeit tired. No agitation was ever noted throughout his stay. Given the waxing and waning changes in the patient's mental status, delirium was suspected. The differential also included dementia and PTSD. Extensive lab work to rule out infectious, autoimmune, and nutritional etiologies were negative. An EEG and CT head were also performed and resulted negative. Neurocognitive testing showed only mild cognitive impairment. An MRI brain showed a 5mm enhancing left anterior pontine lesion. Neurology was consulted and the patient was diagnosed with peduncular hallucinosis. His sleep improved with low dose quetiapine and the symptoms decreased but did not fully resolve. He was discharged 19 days after admission to a family member's home where he would be closely observed. Peduncular hallucinosis was first described in 1922 though even today, existing literature on peduncular hallucinosis is limited. Patients are often misdiagnosed with a primary psychiatric disease despite having no previous psychiatric history, as this patient was misdiagnosed as having PTSD. Extensive, costly, and time-consuming testing for delirium and other etiologies are not uncommon given the occasionally intermittent nature of the hallucinations. Successful diagnosis seems to arise with recognition of the distinguishing aspects of the hallucinations compared to delirium. The hallucinations have consistently been described across several cases as scenic or naturalistic, dream-like, colored, non-distressing, and complex. Most cases make some mention of hallucinations containing animals. This case illustrates that peduncular hallucinosis should be considered early on in the differential of patients with complex visual hallucinations, risk factors for stroke and with no previous psychiatric history.

## No. 62

### **Traumatic Brain Injury and Its Effects on Appetite Regulation**

*Poster Presenter: Prerana Suresh Kurtkot, M.D.*

*Co-Author: Ye-Ming Sun*

## **SUMMARY:**

**Introduction:** Traumatic brain injury (TBI) is defined as an alteration in brain function, or other evidence of brain pathology, caused by an external force<sup>1</sup>. It usually causes impairment in somatic related to the specific cortex or cognitive function of the brain. Report regarding specific visceral function impairment is rare. Here we report a case of a patient with loss of appetite following TBI. The pathology of TBI and its impact on appetite regulation is discussed. **Case report:** A 43-year-old combat veteran who has been seen in the mental health clinic for 15 years with the diagnosis of PTSD, generalized anxiety disorder, panic disorder, tobacco use disorder, and TBI. The Patient has had a loss of appetite since TBI which has worsened over time. The patient has scheduled meals to prevent weight loss and complications associated with poor nutrition. He has had multiple neuroimaging since TBI. Initial CT head showed evidence of increased intracranial tension. Repeat CT head 4 years after TBI, MRI 10 years and 12 years after TBI were within normal limits. **Discussion:** Appetite or desire to eat is regulated by complex pathways involving appetite centers in the hypothalamus and brain stem, and hormonal signals released by the gut and by the periphery<sup>2</sup>. TBI, accompanied by hypoxic insult, increased intracranial pressure, axonal injury, genetic predisposition, neuroinflammation, and autoimmunity can be responsible for the development of neuroendocrinal complications of TBI affecting the pituitary, hypothalamus, and brainstem<sup>3</sup>. Studies have shown that increased intracranial hypertension and stress leads to apoptosis of neuroendocrine cells in the hypothalamus and pituitary gland<sup>4</sup>. In this patient, the onset of loss of appetite right after the trauma may be due to acute insult, and the worsening over time can be related to apoptosis. There are very limited reports of TBI affecting visceral functions. A similar case report was found in a literature search that shows the disappearance of food aversion after TBI<sup>5</sup>. Limited reporting could be because the location of visceral centers are deep in the brain which might receive mild impact during trauma or due to missed diagnoses by a clinician when intermingled with somatic damages in TBI. The visceral function change can also be interpreted as symptoms of cognitive or emotional dysregulation. With this article, we aim to

highlight the need for further awareness regarding visceral regulation impairment after TBI in clinical practice. **Conclusion:** TBI is a common medical condition seen in combat veterans and contact sports. It can lead to somatic neurological deficits as well as visceral function impairment.

#### **No. 63**

##### **An Unusual Case of a Patient With Two Cryptic Pregnancies**

*Poster Presenter: Prerana Suresh Kurtkoti, M.D.*

*Co-Authors: Diego David Garces Grosse, M.D.,  
Adriana Phan*

#### **SUMMARY:**

**Introduction:** Cryptic pregnancy is a condition in which women are not consciously aware of their gravid state until the final weeks of gestation<sup>1</sup>. The evolutionary biology of cryptic pregnancy could be explained by the nonadaptive outcome of conflict resolution processes over resource allocation, missed spontaneous abortions of low-quality fetuses, and an adaptive pattern where mother and fetus would benefit if the mother reduced her investment in the pregnancy to maximize her chances of surviving<sup>1</sup>. Physiological factors that may contribute include abdominal muscle tone, persistent corpus luteum function, reduced availability of biogenic amines, and the position of the fetus<sup>3</sup>. **Case report:** A 25-year-old female presented to the hospital after delivering a baby at home 2 days ago. The baby was dropped off at the hospital by the father after birth under the safe-haven act. The patient was not aware of her pregnancy or the term of pregnancy until 3 weeks ago and did not anticipate that she would give birth within 3 weeks. She and her husband decided not to inform anyone and delay getting medical care until they discuss their plans further. She delivered a full-term baby in the bathroom at home after experiencing abdominal discomfort. She was in shock and requested her husband to take the baby away. Two days later patient missed her baby and wanted to take her baby home. She also has a 3-year-old daughter. At the time of her first pregnancy, she was not aware she was pregnant until 21 weeks. Once she discovered that she was pregnant, she received prenatal care and delivered a healthy baby

and has been a “good mother” since then as per collateral history. She has no known past psychiatric history, history of substance use, or family history of mental illness. The patient was happy to see her baby and was noted to take good care of the baby during the hospitalization. **Discussion:** Here we see a patient with two cryptic pregnancies. The first one was identified at 21 weeks where she responded by accepting the pregnancy. She maintained a healthy pregnancy by receiving prenatal care and continued to care for her child after delivery. In contrast to this, the second cryptic pregnancy was identified 3 weeks before delivery. She displayed possible dissociative reactions as seen by her hesitancy in accepting pregnancy and the abandonment of the child after delivery. There are very few reported cases of cryptic pregnancy<sup>2</sup> and acute dissociative reaction after delivery<sup>4</sup> highlighting the need to increase awareness regarding the same among physicians. It is essential to further study the course, risk factors, genetics, and prognosis of cryptic pregnancy, and the possibility of recurrence in patients with h/o prior cryptic pregnancy.

#### **No. 64**

##### **Delays in Reproductive Psychiatric Assessment Correspond to a Decline in the Mental Health of Peripartum Women**

*Poster Presenter: Amanda M. Koire, M.D., Ph.D.*

*Co-Authors: Bethanie Van Horne, Ph.D., Yen Nong, M.P.H., Cary Cain, Ph.D., Lucy Puryear, M.D.*

#### **SUMMARY:**

**Background:** Untreated peripartum depression (PD) is associated with negative neonatal outcomes including preterm birth, neonatal death and negative neurodevelopmental outcomes in both early childhood and adolescence for offspring of women with persistent or more severe depressive symptoms. The goal of this work was thus to assess the extent to which delays in access to reproductive psychiatry may influence the mental health of peripartum women. **Methods:** This retrospective observational study analyzed data from women screened for PD by Texas Children’s Hospital, a large integrated system comprised of multiple obstetric practices, children’s hospitals, and over 50 pediatric practices. Pregnancies with an Edinburgh Postnatal

Depression Scale (EPDS) screening completed in both the obstetric and pediatric settings between November 2016 and October 2019, and subsequently referred to and seen by The Women's Place at Texas Pavilion for Women, a reproductive psychiatry clinic, were included ( $n=177$ ). EPDS scores  $\geq 10$  were considered positive screens for elevated depressive symptoms. **Results:** The average time between a positive EPDS screen and a reproductive psychiatry assessment was one month (32.5 days). At their psychiatry referral appointment, 81% of women continued to screen positive for potential PD. EPDS scores at the psychiatry referral appointment were significantly higher than at the primary care appointment precipitating the referral (Wilcoxon matched pairs signed rank test  $p=0.004$ ), on average increasing by one point. The wait time between initial positive screen and referral appointment was directly correlated to the degree of increase in EPDS score (Pearson  $r=0.27$ ,  $p=0.003$ ). Among those with positive screens ultimately seen by The Women's Place, race did not significantly influence wait time (ANOVA  $p=0.85$ ) but Asian women had significantly higher initial EPDS scores compared to Black and White women (ANOVA  $p<0.001$ ). **Conclusions:** A longer period of time between primary care referral and subspecialty appointment has a negative impact on the mental health of women awaiting assessment reproductive psychiatry, and those with more severe symptom burden and thoughts of self-harm confront substantial wait times and may benefit from earlier assessment, such that they do not become 'severe and persistent' in symptomatology. Expansion of reproductive psychiatry services would be helpful to support pregnant and postpartum women and would be expected to improve outcomes for the mother-child dyad. In the future, additional information regarding women who may have declined a referral or cancelled their referral appointment would further clarify interpretation of this data.

#### No. 65

##### **Prenatal Depression Screening With Postpartum Follow-Up Identifies Risks for Positive Screens and Persistent Depressive Symptoms**

*Poster Presenter: Amanda M. Koire, M.D., Ph.D.*

*Co-Authors: Bethanie Van Horne, Ph.D., Yen Nong, M.P.H., Cary Cain, Ph.D., Lucy Puryear, M.D.*

#### **SUMMARY:**

**Background:** Untreated prenatal depression is associated with adverse neonatal outcomes; identification and treatment has been shown to improve outcomes for mother-child dyads. The goal of this work was to identify risks for prenatal timing of depressive symptoms and thoughts of self-harm, and risk factors for persistent symptomatology postpartum. **Methods:** This was a retrospective observational study of women screened for peripartum depression within the Texas Children's Hospital (TCH) Health System. Edinburgh Postnatal Depression Scale (EPDS) screenings were administered by obstetric and pediatric practices (maternal appointments in the first and third trimester, 6 week postpartum, and well-baby visits at 2-weeks, 2-, 4-, and 6- months). Pregnancies with a screening completed in both the obstetric and pediatric settings between November 2016 and October 2019 were included ( $n=3,240$ ). EPDS scores  $\geq 10$  were considered positive screens. **Results:** For this cohort, the peripartum EPDS detection rate was 18.5% ( $n=601$ , prenatal=53.4%, postpartum=46.6%). A strong positive correlation ( $r=0.73$ ,  $p<0.001$ ) between number of prior EPDS screens and time to the first positive screen indicated timely identification of depressive symptoms. In a binary logistic regression analysis, Black women were significantly more likely to have a prenatal rather than postpartum timing of a positive screen compared to White women (OR 2.42,  $p<0.001$ ), while maternal age, relationship status, and Medicaid status were not significantly associated. Among the 321 women detected prenatally, single women were significantly more likely to have thoughts of self-harm (OR=2.42,  $p<0.05$ ), and Asian race trended toward significance as a risk factor as well (OR=2.40,  $p<0.1$ ). Over a third of women who screened positive prenatally continued to screen positive postpartum, and 29.3% of women with a positive prenatal screen were not screened again by their OB postpartum and relied on the pediatrician for follow-up. In a binary logistic regression analysis, 'persistent positives' were more likely to have higher prenatal EPDS scores ( $p=0.02$ ) compared to positive screens that resolved postpartum, yet were not

more likely to be diagnosed late in pregnancy ( $p=0.21$ ) and showed no significant bias with regards to maternal demographics. **Conclusions:** Psychiatrists should be aware that Black women are at higher risk for potentially clinically significant prenatal depression, while a single relationship status is a risk for thoughts of self-harm and should be considered when safety planning. A higher initial score on a positive prenatal EPDS screen is a risk factor for persistent symptoms postpartum, irrespective of maternal demographics. Many women experienced persistent symptoms postpartum, and those noted to have a positive screen earlier in pregnancy were not less likely to screen positive postpartum, suggesting a need for more aggressive treatment or increased referral to psychiatry by primary care.

#### **No. 66**

##### **Psychotic Presentation of Anti-Hu Encephalitis: A Case Series With Review of Literature**

*Poster Presenter: Arun Prasad, M.D.*

*Co-Authors: Azadeh Zamiri, M.D., Soroush Pakniyat-Jahromi, M.D.*

#### **SUMMARY:**

**Background:** Anti-Hu related Paraneoplastic Neurological Syndrome (PNS) is one of the most common paraneoplastic-associated neurological syndromes. While the primary clinical manifestations include sensory neuropathy, cerebellar ataxia, and limbic encephalitis, only rare reports exist regarding psychiatric manifestations. Affective symptoms and depression are the most common psychiatric symptoms reported in anti-Hu encephalitis. However, the prevalence of psychotic symptoms is poorly defined. Our poster presents two cases of Anti-Hu Encephalitis manifesting as psychosis as well as a systematic literature review on the co-occurrence of psychosis and PNS. **Methods:** Two cases of anti-Hu encephalitis primarily presenting with psychiatric symptoms are discussed. A systematic literature review will be carried out based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model on three electronic databases: PubMed, Embase, and PsycINFO. Search terms included were (Anti-Hu) AND (Psychosis OR Hallucinations OR Schizophrenia

OR Schizoaffective). **Results:** Our case series reports on two patients with diagnosed anti-Hu encephalitis who were treated by the Consultation-Liaison team, as well as the Adult Inpatient team, where the primary manifestations of the illness were psychiatric in nature. Both patients were female and neither had a prior psychiatric history. Both patients endorsed auditory hallucinations, while one was also noted to have visual hallucinations and paranoid delusions. In each case, the Neurology team was consulted, recommending MRI, Lumbar puncture, and antibody testing. Both patients tested positive for Anti-Hu antibodies in the context of otherwise normal lumbar punctures and no evidence of anti-NMDA antibodies. Electroencephalograms were performed which demonstrated bilateral slowing in both cases. Magnetic Resonance Imaging (MRI) of the brain was performed in both cases. Psychotic symptoms in these cases were managed with Risperidone, Olanzapine, and Paliperidone. Preliminary data gathered on literature review revealed 47 hits on PubMed, 3 hits on PsycINFO, and 37 hits on Embase. We reviewed the articles using our established inclusion criteria and then used the selected articles for discussion. **Discussion:** This case series and literature review demonstrate the importance of considering anti-Hu encephalitis as a diagnosis in patients with first episode psychosis. It is noted that presenting symptoms are typically neurological and rarely psychiatric. When the primary symptomatology is psychiatric the most common psychiatric symptoms are affective disturbances and depression. Psychotic symptoms are seldom reported in the literature and cases like the ones presented here emphasize the importance of a full medical work-up for first episode psychotic symptoms as well as a wide differential. Given the increased association between PNS and psychiatric illness, more emphasis and further research is warranted.

#### **No. 67**

##### **A Tale of Two Assaults: What Happens When a Patient Gets Violent in the Midst of Seeking Help?**

*Poster Presenter: Stephanie Cripps*

*Co-Authors: Sara Banoo Feizi, M.D., Nicole F. Wolfe, M.D.*

**SUMMARY:**

“Psych patients” often face a bias when receiving care in medical hospitals and emergency departments, especially if their behaviors are categorized as dangerous or aggressive. The decline in the number of psychiatric hospital beds across the United States has led to an increase in the number of patients who present to local emergency departments while in crisis. With nowhere for many patients to go, a large strain is placed on emergency departments that become flooded with “boarding” psychiatric patients awaiting placement. Treatable medical conditions may be overlooked in favor of discharging a “medically clear” patient for psychiatric hospitalization. In recent years, there has been a disturbing trend of discharging disruptive patients directly to the hands of law enforcement for offenses committed while hospitalized for a psychiatric emergency. However, not all who assault end up in jail or have charges filed against them. Our poster will take an in depth look at two clinical cases of patients who presented to the emergency room for a psychiatric emergency. Both cases start with the assault of a member of hospital staff, but have very different outcomes. In the first case, charges were not filed and the “City” patient was transferred for medical treatment of the underlying condition. In the case of the “Country” patient, involuntary civil commitment was prematurely discontinued in favor of discharging the patient into police custody and pursuing criminal charges. Multiple factors including race, geography, and socioeconomic status may lead to prioritizing prosecution over treatment for some people with severe mental illness. The blurred line between acting in a patient’s best interest and holding them accountable for aggressive behaviors in the setting of untreated mental illness creates a dilemma that can lead to grave consequences. When is it ethically appropriate to file a criminal complaint against a patient with severe mental illness who has committed assault on hospital staff? The decision to pursue legal action against a patient who assaults rests largely on the discretion of the provider. However, a proactive, collaborative approach between clinicians, administrators, and law enforcement can create clear guidelines for when to pursue prosecution may be able to help ensure that a patient in crisis gets the proper care, even before an assault occurs. We will conclude with a summary

of the model guidelines for creating a policy of when to prosecute patients who assault. Our goal is to give psychiatrists the knowledge and tools to advocate for the proper care and disposition for hospitalized patients with severe mental illness and aggression.

**No. 68****Emerging Outlook on Social Medias Influence on Mood Disorders**

*Poster Presenter: Omar Rahman Syed*

*Co-Authors: Nicolette Natale, William Wanzor*

**SUMMARY:**

Our patient is a well appearing, 27-year-old, Hispanic-American male with a past psychiatric history of attention deficit hyperactivity disorder and cannabis use disorder, that is brought in via family to the crisis stabilization unit with recent onset of rapid speech, flight of ideas, and paranoid delusions. The patient had begun to spend increasing amounts of time tracking the alleged election fraud. He is a well educated, well accomplished young man who currently resides in a home with his parents. He was admitted to our inpatient psychiatric unit. On our differential was substance induced mood disorder, potentially bipolar disorder given presentation. Through interviews a clearer picture began to unfold, he outlined how his increasing use of twitter began to overrun his days. His persistence in constantly refreshing social media coupled with hours spent investigating the stolen election led to a decrease of sleep and a heightened awareness of his surroundings. The episode culminated in the January 6th insurrection, and our patient noted that in the days following he believed he was being followed given his interactions and research on social media. As online interactions continue to evolve, many studies have begun to note links with depressive symptoms and time spent on facebook. One paper going so far as to noting that verbiage traced through social media was able to predict depressive symptoms in a patient prior to them presenting with an acute episode. In this poster, we discuss the potential influence social media can play on a patients well being, and the importance of clinicians to both counsel and monitor usage in these regards.

**No. 69****Guilty Conscience: Nonpsychotic Genital Self-Mutilation in Adult Male**

*Poster Presenter: Katherine Provaznik, D.O.*

*Co-Author: Heather Theibert, D.O.*

**SUMMARY:**

This case is about severe genital self-mutilation (GSM) in a non-psychotic, non-suicidal 33 year old male without any previous history of serious mental health disorders. Patient completed a full removal of penis, testes, and scrotum while experiencing intense feelings of guilt surrounding his sexual urges. This case report looks at the relevance of pathological guilt in severe forms of self-mutilation, the extent that guilt can worsen psychiatric symptoms in those suffering from other mental health disorders, and briefly discusses ways that pathological guilt can be treated. This case is also intended to improve clinician understanding of how guilt can affect patient outcomes.

**No. 70****A Case of Recurrent Epistaxis in an 11-Year-Old Female After Initiating Antidepressant Therapy With Fluoxetine**

*Poster Presenter: Kritika Chugh*

*Co-Author: Michael Evan Ferguson, M.D.*

**SUMMARY:**

Pharmacotherapy with selective serotonin reuptake inhibitors (SSRIs) is the first-line treatment for several highly prevalent psychiatric conditions including major depressive disorder, generalized anxiety disorder, obsessive-compulsive disorder, and panic disorder. Common side effects of these medications include headache, gastrointestinal upset, anxiety, insomnia, and sexual dysfunction. There is also a black box warning for increased risk for suicidal thoughts and behaviors in children and adolescents. Abnormal bleeding events are a rare complication of SSRIs that are believed to be the result of impaired platelet aggregation. Here we report the case of an 11-year-old female with no significant past medical history, no personal or family history of bleeding disorders, and no previous psychiatric medication trials who developed recurrent atraumatic epistaxis after starting

Fluoxetine, and whose symptoms resolved with discontinuation. While coagulopathies are a rare complication of SSRI use, a better understanding of the associated risk is necessary given the prevalence of SSRI use today. This is especially true for pediatric cases involving fluoxetine as this is one of only two SSRIs that are FDA approved for the treatment of depression and anxiety in children. In this poster, we discuss the proposed mechanism for SSRI-induced coagulopathy and identify additional risk factors that should be considered when determining whether to initiate or discontinue the use of an SSRI.

**No. 71****Nationwide Needs Assessment Survey of Financial Literacy Among U.S. Residents**

*Poster Presenter: Alex Wang*

*Co-Authors: Austin Wang, Kishen Bera, Bao-Nhan Nguyen, M.D.*

**SUMMARY:**

Many resident physicians face the financial dilemma of managing high future earning potential while carrying significant student loan debt, which currently averages \$215,900 for recent medical student graduate. This study aimed to assess the financial status and literacy of psychiatry residents across the nation and their interest in having formal financial education during their training. A cross-sectional, anonymous, web-based electronic survey was designed and distributed to every nationally accredited psychiatry program in the United States. Responses were received from 25 residency programs with a resident response rate of 31.1% and were collected over an 8-week period. Of the 196 respondents, most were White (46.9%), female (52.6%), and under the age of 34 (88.3%). The majority of residents (80.1%) took out student loans with most having loans greater than \$200,000 (44.4%). The primary source of financial knowledge was from personal research (49.4%). Most importantly, almost all residents (93.4%) were interested in having a formal financial curriculum during residency training. The results of this study highlight significant gaps in financial literacy among psychiatric residents and the need for change within residency didactic education. Curriculum reform with a focus on teaching core career development

and personal finance topics is long overdue and needs to be an ACGME requirement. Failure to do so may lead to suboptimal financial decisions, vulnerability to dishonest advisors, and increased anxiety in the journey to independent practice. In this time of acknowledging physician burnout, a basic understanding of personal finances goes a long way towards decreasing physician stress, which in turn may lead to better productivity, quality of care, and physician well-being.

#### **No. 72**

##### **A More Comprehensive Approach to Understanding Drug-Induced Dyskinesia Through a Case Study**

*Poster Presenter: Samouel Hanna*

*Co-Author: Amir Gassemi, M.D.*

#### **SUMMARY:**

**Background/Significance:** In this case study we aim to understand the mechanisms involved in an unusual dopaminergic dyskinesia presentation in a patient with Parkinsonian syndrome. **Case:** A 67 y.o. male with a significant history of parkinsonism, normal pressure hydrocephalus, requiring ventriculoperitoneal shunt placement, traumatic subdural hematoma, and chronic kidney disease presented after being found exhibiting abnormal, flailing movements, and a concomitant acute kidney injury (AKI). Patient had been taking carbidopa-levodopa (C/L) and pramipexole for parkinsonism, and primidone, increased shortly before presentation, for essential tremor. C/L and pramipexole were held; primidone was tapered, and Amantadine was initiated. Patient's abnormal movements rapidly decreased within 24hrs of this change, and eventually resolved. Amantadine was titrated then stopped. At neurology follow-up, patient had significant reduction of tremors without need for levodopa (L-dopa) and with the lower dose of primidone. **Discussion:** Postsynaptic receptor level dopaminergic and/or serotonergic dysfunction, GABAergic neuron damage, in addition to upstream pathways have been implicated in dyskinesia development. Studies have shown L-dopa, via D1 receptors effects, linearly relates to dyskinesia development; Pramipexole, a preferential D3 agonist, attenuates L-DOPA-Induced Dyskinesia (LID), and Amantadine, a noncompetitive NMDA-R

antagonist, blocks glutamatergic transmission and regulates cortico-striatal synaptic efficacy. It is suspected per HPI, the patient's primidone increase worsened underlying bradykinesia which lead to worsened kidney function and subsequent altered dopaminergic levels, resulting in LID and frank rhabdomyolytic AKI. Given his rapid hospital improvement, non-significant follow-up DaT scan uptake results, interestingly, Hydrocephalic-parkinsonian syndrome, shown to involve variable sites of dysfunction along the striato-pallido-thalamo-cortical circuit due to mass effects and ischemic changes, would explain his chronic disordered movements. Evidence has characterized dyskinesia by significant changes in burst firing and oscillations across the BG-thalamus-cortex loop. A recent study, elucidating the "Circuit mechanisms of LID" along different levels of the motor control system, represents a fruitful direction to understanding the regional significance of loci along neuronal pathways dictating movement control, for more targeted management options. So far, alternate medication delivery tools being studied have focused on managing fluctuating medication levels to limit dyskinesia development due to postsynaptic L-dopa effects; one of which are liposome-based strategies for effective drug delivery across the blood-brain barrier. **Conclusion:** Through this case report, we discuss potential mechanisms and motor pathways involved in drug induced dyskinesia, shedding light on hopeful future directions towards more targeted treatment options.

#### **No. 73**

##### **Clozapine-Induced Constipation Treated With Lubiprostone: A Case Report**

*Poster Presenter: Manik Dayal*

*Co-Authors: Pooja Eagala, Snehpreet Kaur, David Weinstein*

#### **SUMMARY:**

Clozapine is the most effective antipsychotic used for treatment resistant schizophrenia. However, it remains underutilized due to its significant and broad adverse effect profile. Constipation is a common adverse reaction of clozapine largely due to strong peripheral muscarinic anticholinergic activity



on gastrointestinal motility [1]. In 2020, The U.S. Food and Drug Administration strengthened an existing warning about clozapine-induced constipation progressing to serious complications, including complete bowel obstruction leading to hospitalization or even death if not diagnosed and treated quickly. Traditional bowel regimens are commonly prescribed to treat clozapine-induced constipation [2]. Lubiprostone is a relatively new-laxative used to treat chronic idiopathic constipation and opioid associated constipation, and there is one case report of its ability to treat clozapine-induced constipation when other bowel regimens had failed [3]. In this case report, we describe two cases of clozapine-induced constipation demonstrated by abdominal x-ray, that had not been relieved by traditional bowel regimens, that were successfully treated with the addition of Lubiprostone. Optimizing tolerance of adverse reactions to clozapine use is a powerful tool to maintain prognosis in treatment resistant schizophrenia, as these patients have typically had failed therapeutic response to other antipsychotics. Lubiprostone appears to have therapeutic potential in future treatment of clozapine-induced constipation, and it is particularly appealing due to its minimal adverse reaction profile. Keywords: Clozapine-induced constipation; adverse reactions; atypical antipsychotic; case report; drug-induced; Lubiprostone

#### **No. 74**

#### **Difficulties in Managing QTc Prolonging Medication in a Patient After Polymorphic Ventricular Tachycardia Arrest**

*Poster Presenter: Alistair Hilton*

*Co-Author: Barrington Hwang, M.D.*

#### **SUMMARY:**

Mr. S., a 69-year-old male with past psychiatric history of major depressive disorder (MDD) and post traumatic stress disorder (PTSD) and complex medical history including coronary artery disease status post 3 stents, atrial fibrillation, atrial flutter, and multiple myeloma, presented to the psychiatric consult service for management of psychoactive medication in the setting of recent cardiac arrest and acquired prolonged-QTc. The patient became

unresponsive at home, prompting emergency medical personal arrival and transfer of the patient to the emergency department (ED). In the ED the patient suffered polymorphic ventricular tachycardia arrest requiring two rounds of cardiopulmonary resuscitation and one defibrillator shock for return of spontaneous circulation. QTc interval ranged from 478-659 using the Fridericia formula (QTcF) and 488-648 using Bazett (QTcB). The patient required intubation for airway protection and intravenous magnesium for cardiac stabilization before transfer to the medical intensive care unit. At this time all QTc prolonging medications were stopped, including patient's home quetiapine, fluoxetine, and gabapentin. Following stabilization and transfer to the floor, the inpatient psychiatry team was consulted for psychiatric evaluation and medication management in the setting of prolonged QTc. QTc interval on the day of consult was 468 QTcF and 507 QTcB. Given borderline prolonged QTc of 468 using the more accurate Fridericia formula, the team recommended restarting home fluoxetine 10mg with close EKG monitoring for effect on QTc and withholding quetiapine. Cardiology team wanted to avoid all QTc prolonging meds, given their own measurements of QTc >600ms. When asked, they were unable to provide the formula used. Psychiatry team had no recommendations for medications that would be safe for the treatment of MDD and PTSD with a QTc >600ms. QTc intervals ranged from 461-534 QTcF and 497-568 QTcB during remainder of hospitalization with 507 QTcF and 543 QTcB upon day of discharge. Both antipsychotics and antidepressant medication have been associated with prolonged QTc, however these risks vary greatly by class and individual medication; for example, quetiapine has mixed results on its relation to QT prolongation and relationship to ventricular arrhythmias, while in SSRIs the elevated risk is driven primarily by citalopram and escitalopram, with fluoxetine having little association. Furthermore it is important to use the correct formula to ensure agreement amongst teams. Studies suggest QTcF is a more accurate measurement than the commonly used QTcB, which overestimates QTc leading to unnecessary withholding of first-choice medication. In this poster, we discuss the importance and challenges of the management of QTc prolonging medication as well as interprofessional

communication between services in patients who have recently experienced polymorphic ventricular tachycardia arrest.

#### **No. 75**

##### **Expect the Unexpected! A Case of Bupropion-Induced Hyperprolactinemia.**

*Poster Presenter: Claudia Soto de La Cerda*

*Co-Author: Caesa Nagpal, M.D.*

#### **SUMMARY:**

Background: Hyperprolactinemia is a condition with increased prolactin caused by variety of physiological, pathological or idiopathic origins. (1) While mostly antipsychotics are linked to hyperprolactinemia, they can rarely be linked to antidepressants. Trenque reported most common SSRIs that can cause increased prolactin are Fluvoxamine, Citalopram, Fluoxetine and Paroxetine. Duloxetine and Sertraline were not associated with hyperprolactinemia. (2) We present a case of a 20-year-old male who developed hyperprolactinemia with Bupropion. Method: Mr. H is a 20 year-old male with no past psychiatric history was admitted to inpatient psychiatric hospital for depressed mood and increased suicidal thoughts in context of an erectile dysfunction. On admission, he reported having low appetite, anhedonia, depressed mood, low energy, hopelessness for last couple of months. He was diagnosed with Major Depression Disorder and was started on Bupropion SR 150 mg PO daily. He remained compliant to the medications and reported improvement in mood symptoms. Prolactin levels were ordered for evaluation of erectile dysfunction showed increased prolactin of 34.2ng/ml on day 4 of treatment with Bupropion. While this could be a cause for erectile dysfunction for patient, Internal medicine consult was done for evaluation of erectile dysfunction. He was found to have sexual problems related to his psychological issues in his teenage years and was told to go for therapy. Prolactin levels repeated again on day 8 of treatment with Bupropion were increased 58.9 ng/ml. No other potential variables were found to be associated with such an increase in prolactin levels except for Bupropion. Discussion: Hyperprolactinemia can present as menstrual cycle irregularities, hirsutism, galactorrhea, vaginal

dryness in females and in males can present with gynecomastia, lactation, infertility, erectile dysfunction, loss of sexual desire. SSRIs are a widely prescribed class of antidepressants. Activation of serotonergic system can increase prolactin by blocking dopamine. Bupropion is mostly identified as neutral at increasing prolactin. (3). Kilic reported prolactin levels may increase during Bupropion because of Bupropion metabolites. (4) Further research needs to be to look into mechanism behind Bupropion causing Hyperprolactinemia. Conclusion: This case highlights that Bupropion can be a cause for Hyperprolactinemia.

#### **No. 76**

##### **Fluoxetine-Induced Tic Disorder in an Adolescent Male With Generalized Anxiety Disorder**

*Poster Presenter: Bonnie Yam, M.D.*

*Co-Author: Rajesh Kumar Mehta, M.D.*

#### **SUMMARY:**

**Case Report:** Mr. C is a 17 year male with past psychiatric history of generalized anxiety disorder and cyclothymia, presenting to outpatient psychiatric clinic two weeks after an increase in fluoxetine from 20 mg to 40 mg by his primary care provider. During this time, Mr. C noted increased suicidal thoughts, reckless behaviour, and self-injurious scratching. Interestingly, he also developed motor tics. These involved the contraction of the bilateral cervical muscle groups as well as flexing his right phalanges, and was characterized by the increasing urge to perform these actions accompanied by relief when performed. Patient and his mother note that these abnormal movements would be exacerbated by anxiety or paying attention to the urge to move the certain body part. Fluoxetine is stopped, and patient is started on aripiprazole 2 mg at bedtime for mood stabilization and the motor tics. Two weeks later, Mr. C reports complete resolution of motor tics, and aripiprazole is increased to 5 mg to better control mood dysregulation. A month after the resolution of these tics, patient returns for follow up and once again reports the return of these tics, specifically in the cervical region of his neck, milder than prior. Patient notes that these movements are only present when he feels particularly anxious, and attributes

increased anxiety due to returning to school. Given that these motor tics were mild and not disrupting his daily living, his most recent medication dosage is continued. **Assessment:** Current literature is limited regarding antidepressant and movement disorders. There have been multiple movement disorders implicated as adverse effects from antidepressants, including myoclonus, bruxism, and amongst the rarest, tic disorders. Rating scales shown to have good internal reliability are administered to the patient to support the clinical diagnosis of motor tics, as well as to classify the severity of these tics. Mr. C scores 16/50 on the clinician-administered Yale Global Tic Severity Scale, and 30/36 on the self-administered Premonitory Urge for Tics Scale. These results support the differential of a motor tic disorder, and the scoring indicates a mild-moderate impairment in the patient's life due to these tics.

**Discussion:** Antidepressant induced tic disorders are amongst the rarest movement disorders reported as a side effect of antidepressants. It has been postulated that Tourette's Syndrome is likely due to abnormality in dopamine function, as dopamine blocking agents have been proven to be effective. It is also known that fluoxetine is a potent 5HT<sub>2c</sub> antagonist, which is known to play a role in regulating the release of dopamine in mesolimbic and nigrostriatal pathways, although it is still unclear to what extent this contributes to movement disorders. With this case report, we wish to contribute to an increased recognition of movement disorders induced by commonly used antidepressants.

#### **No. 77**

##### **Lithium and Its Side Effects, a Case Study**

*Poster Presenter: Tyler L. Seidman, D.O.*

##### **SUMMARY:**

Lithium has been a mainstay of treatment for bipolar disorder for many years and has been very effective for many patients. However, Lithium is associated with numerous side effects, some of which can be life altering and extremely detrimental to health. This case will highlight the more severe side effects of Lithium, including Lithium induced nephrogenic diabetes insipidus, renal impairment and hyperparathyroidism in a 53 year old male with self-

reported bipolar disorder. This patient presented to clinic in the Spring of 2021 on the following medication regimen: Lithium 600mg BID PO, Bupropion XL 150mg PO qam, Escitalopram 20mg PO qday, Venlafaxine XR 150mg PO qam/75mg PO qhs, Gabapentin 400mg PO QID, and Brexpiprazole 4mg PO qam/2mg PO qhs. He was initially started on Lithium over 30 years ago after experiencing an episode of paradoxical increased agitation when he took one dose of Ativan. The patient seemed to benefit from Lithium in terms of depression symptoms so he was kept on it. Around 2011, he began experiencing some of the more severe side effects of this treatment, most notably, nephrogenic diabetes insipidus and impairment in renal function. He began seeing a nephrologist in light of these side effects but remained on Lithium for the past 9 years. He presented to clinic with polyuria and polydipsia, impairment in renal function, hyperparathyroidism with resultant kidney stones, tremor, and increased acne. After extensive review of his history with the patient and collateral information from his mother, his diagnosis was more consistent with major depressive disorder with secondary irritability rather than a cyclic mood disorder. At the time of this report, this patient has begun tapering off of Lithium and on an upward titration of Lamictal, off label, for the target symptom of irritability. Treatment goals for this patient include complete discontinuation of Lithium to avoid any further renal insult, regaining of his ability to concentrate his urine with resolution of Lithium induced nephrogenic diabetes insipidus, normalization of parathyroid stimulating hormone and secondarily normalization of calcium metabolism.

#### **No. 78**

##### **MAOIs for Trainees**

*Poster Presenter: Cameron H. Kiani, M.D.*

*Co-Author: Uchechukwu Nnamdi, M.D.*

##### **SUMMARY:**

Currently, training in how to use MAOIs is minimal, meaning graduating practitioners are increasingly unaware of how to safely and effectively use these medications. Data from 2018-2019 indicated that off all Antidepressants, only 0.035% of those prescribed were MAOIs (with 0.015% being Parnate and 0.010%

being EMSAM). Currently, many popular texts and teaching do not incorporate the knowledge base that has developed since the advent of MAOIs (particularly around original fears related to drug-drug interactions, diet, and blood pressure). This poster will summarize the current thinking on MAOIs and will present a pilot program to teach residents how to safely & effectively use these medications.

#### **No. 79**

##### **The Effectiveness of Ketamine in Patients With Major Depression With Borderline Features**

*Poster Presenter: Kelly Chen*

*Co-Authors: Yogesh Dwivedi, Richard Shelton*

#### **SUMMARY:**

**Background:** Major depressive disorder (MDD) shares many features and is often co-morbid with Borderline Personality Disorder (BPD). MDD co-occurring with BPD does not respond as well to antidepressant medication as MDD in the absence of BPD. Ketamine is a potential treatment for patients with MDD with suicidal ideation and for those with treatment resistant depression for its quick onset of action compared to antidepressants. This study compared response to ketamine in patients with MDD with BPD features (MDD+BF) and MDD alone (MDD-BF). **Methods:** 163 adult patients (age 18-65) with MDD were assessed with the Personality Assessment Inventory (PAI) Borderline Subscale. Data was normally distributed with a mean $\pm$ SD of 38.95 $\pm$ 11.54. Patients who were  $\geq 1$  SD above the mean were assigned to the MDD+BF group. All others were assigned to the MDD-BF group. All 163 patients were administered IV ketamine 0.5 mg/kg of ketamine over 40 minutes. Mood was assessed using the Beck Depression Inventory-II at baseline, 3 and 24 hours post-ketamine. Scores between the MDD group and MDD with BPD features group at each time point were compared using a two-tailed t-test. The primary outcome was response at 24 hours. **Results:** Thirty-two patients were in the MDD+BF and 121 patients were in the MDD-BF group. The mean change in BDI at 24h was - 24.8 (SD=13.7) for MDD-BF and - 24.4 (SD=16.8) for MDD+BF (t= -0.163, df=163, p=NS). The mean change in BDI at 3h was - 23.8 (SD=14.2) for MDD-BF and -22.3 (SD=14.3) for MDD+BF t= 0.559, df=163,

t=NS). The mean change in BDI at 14d was -20.0 (SD=16.0) for MDD-BF and -25.0 (SD=15.0) (t= 1.233, df= 142, p=NS) for MDD+BF. **Conclusion:** IV ketamine was associated with reduction in depression severity that was equivalent at 24 hr, 3 hr, and 14 days in the MDD+BF group that were equivalent to the MDD-BF group at all timepoints, although the change at 14 days was numerically greater in the MDD+BF than the MDD-BF group (mean difference of 5 points). These data indicate that ketamine is equally effective in MDD patients with and without borderline features. This study was supported by NIH grant MH107183.

#### **No. 80**

##### **The Rise of Psilocybin and Other Alternative Treatments for Depression: A Literature Review**

*Poster Presenter: Ryan Grantham*

#### **SUMMARY:**

**Background:** Millions of Americans struggle with depression. 9.3 percent of all patients in the US list depression as an issue at their physician office visits.<sup>1</sup> Major depressive disorder (MDD) is normally treated with a combination of psychotherapy and an antidepressant such as an SSRI. SSRIs have been widely studied and are generally very well-tolerated. However, no current pharmacologic treatments for depression are getting more buzz than psilocybin, marijuana, MDMA, and ketamine. There is no doubt that patients are asking about these alternative options, but do any of them really show promise? **Methods:** A PubMed search was conducted with "psilocybin," "marijuana," "MDMA," "ketamine," or "esketamine" combined with terms including, "depression," "treatment resistant depression," "major depressive disorder," and others. The results of this search were then reviewed, and relevant articles were included in the review. **Results:** Studies on psilocybin have shown promise in treating depression. This substance exerts its antidepressant effects quickly, with results seen as early as 24 hours after administration.<sup>2</sup> While psilocybin has been shown to significantly reduce depression, one study showed that there was no significant difference in depressive symptoms when comparing escitalopram versus psilocybin.<sup>3</sup> Concerns about abuse are present, but adverse events associated with

psilocybin appear mild in the small studies performed thus far.<sup>4</sup> Larger multi-center trials are currently in progress that will give us more answers about the efficacy of psilocybin in depression. Medical marijuana has become a popular topic of conversation in some states, but it has been shown that marijuana can actually increase the user's three-year incidence of MDD.<sup>5</sup> Also, marijuana use is associated with higher rates of suicidal ideation and decreased utilization of mental health services.<sup>6</sup> Ketamine and its enantiomer esketamine have been used in the treatment of depression for several years. Ketamine has been shown to reduce depressive symptoms even more rapidly than ECT.<sup>7</sup> It also has been shown to quickly reduce suicidal ideation, with these results persisting long-term.<sup>8</sup> Esketamine comes in an intranasal form and was approved for the treatment of TRD in 2019. Esketamine shows a similar rapid response, and has been shown to be effective in treating TRD when combined with standard of care therapy.<sup>9, 10</sup> Even though MDMA has mainly been studied to treat PTSD, large multi-center trials have shown decreased depressive symptoms in patients with PTSD who were treated with three doses of MDMA and therapy.<sup>11</sup> Conclusion: In summary, none of the treatments discussed in this review are threatening the combination of SSRIs and psychotherapy as first-line treatment for MDD. However, they do have some unique properties that could possibly benefit patients who have exhausted other options or are acutely suicidal.

## No. 81

### **An Unsuspected Rash: A Case of a Sertraline Induced Exanthem**

*Poster Presenter: Amanda Actor, M.D.*

*Co-Author: Caesa Nagpal, M.D.*

#### **SUMMARY:**

**Background:** Side effects are one of the primary reasons behind medication noncompliance. Antidepressants, specifically Selective Serotonin Reuptake Inhibitors (SSRIs), are no stranger to negative side effects including diarrhea, agitation, dry mouth, hypotension, sexual side effects, and insomnia. Adverse side effects are cited as a reason for medication discontinuation in up to a third of

cases. Sertraline is a highly effective and generally tolerable SSRI with many clinical trials indicating it to be a strong first line treatment for Major Depressive Disorder. We present a case of a 31-year-old female who developed a Sertraline induced Exanthem, a side effect not previously associated with Sertraline. **Method:** Ms. S is a 31-year-old Caucasian female admitted to an acute inpatient psychiatric care facility for suicidal ideation with plan. She endorsed decreased sleep, anhedonia, poor concentration, decreased energy with psychomotor slowing present for the past two months. She was diagnosed with Major Depressive Disorder and was started on Sertraline 50mg by mouth daily to treat her symptoms. On day four of treatment, Ms. S developed a pruritic, erythematous, maculopapular rash on her bilateral forearms, neck, and cheeks. There were no environmental triggers found, leading treatment team to believe that the newly started Sertraline was the source of the rash. Sertraline was stopped and Diphenhydramine 50mg by mouth was administered once, followed by topical Diphenhydramine 2%, Zinc acetate 0.1% cream applied three times daily for comorbid pruritis. Within 24 hours of stopping Sertraline Ms. S reported improvement in pruritis and the maculopapular rash began to recede. Internal Medicine was consulted who agreed with the cessation of Sertraline and suggested the use of Cortisone cream 0.5% instead of Diphenhydramine for topical use. She was then started on Mirtazapine 15 mg at bedtime for depression which was titrated up to 30 mg and was much better tolerated with no side effects. At time of discharge, day 13, she was discharged on Mirtazapine 30 mg PO at bedtime. **Discussion:** Rashes make up between 1-10% of all reported medication side effects. Maculopapular exanthems, such as the rash seen in our case, are often caused by a delayed hypersensitivity reaction. Current treatments include cessation of offending agent, starting antihistamines, and applying topical steroids. Caution should be used when prescribing Sertraline for the possible side effect of Drug-Induced Hypersensitivity Exanthem. Further research into the mechanism behind Sertraline induced exanthems is warranted to ensure optimal medication management. **Conclusion:** This case highlights that Sertraline can induce maculopapular exanthems as a side effect.

**No. 82****A Pilot Study of Virtual Drama Therapy for Patients With Serious Mental Illness**

*Poster Presenter: Victor Agwu*

*Co-Authors: Amy Cheung, Xiaoduo Fan, M.D.*

**SUMMARY:**

Background: While advances in medicine have kept pharmacological agents at the forefront of psychiatric disorder treatment, many psychotropic agents contribute to poor quality of life and debilitating adverse effects while alleviating the major symptoms of a disorder<sup>1</sup>. Recent trends in psychiatry towards a more holistic approach in the treatment of mental disorders have placed increasing attention on psychotherapeutic methods like creative arts therapy (CAT). Drama therapy is a form of treatment that encourages spontaneity and creativity. It promotes emotional expression without requiring the participant to have insight into their mental conditions, therefore making it a good treatment for individuals with serious mental illness such as schizophrenia<sup>3,4</sup>. In this study, we focused on evaluating the efficacy of virtual drama therapy as an adjunctive treatment for serious mental illness. Methods: A ten-week program led by licensed drama therapists from Lesley University consisted of 10 exploratory 1.5-hour sessions was held over eight weeks and designed to craft and rehearse a drama, an online public performance held via zoom with written interaction from the audience, and one focus group held after the public performance with just the participants to debrief. The rating scales employed were the Theater Impact Scale (TIS), Brief Psychiatric Rating Scale (BPRS), Quality of Life Enjoyment and Satisfaction Scale (Q-LES-Q-SF), and the Perceived Stress Scale (PSS). Result: A total of eight adults with SMI were recruited in this project, with two participants dropping out for personal reasons over the course of the sessions. Therefore, a total of six individuals completed the program. A modest, non-significant reduction in the BPRS total score was observed ( $37.2 \pm 8.7$  vs  $32.3 \pm 10.7$ ,  $p=0.061$ ; mean  $\pm$  SD, pre- versus post- program). A modest, non-significant reduction in the PSS total score was also observed ( $16.2 \pm 6.3$  vs  $12.7 \pm 4.2$   $p=0.133$ ; mean  $\pm$  SD, pre- versus post- program). No

significant change was seen following completion of the program in the TIS questionnaire. Conclusions: Virtual drama therapy allowed participants to explore their identities and personal stories while the public performance allowed the participants to present themselves in a new way. Although no significant changes in quantitative measures were observed due to the small sample size, the modest improvement in the BPRS and PSS total scores is suggestive of the therapeutic value of drama therapy in alleviating psychiatric symptoms. The results of this study were also limited by the lack of a control group and technical difficulties arising from the novelty of utilizing Zoom.

**No. 83****“The Russians and Chinese Hacked My Phone!”: The Case of THC Induced Psychosis in an Older Adult**

*Poster Presenter: Parveen Hussain, D.O.*

*Co-Author: Danielle Dahle*

**SUMMARY:**

A 67 year old female patient with a past psychiatric history of Bipolar Disorder Type II and Borderline personality disorder was hospitalized on a 5150 for danger to self in the setting of severe paranoid and delusional ideation that lead to a high speed chase away from police. On admission patient reported that her phone was “hacked by the Russians and Chinese” and “cloned in the Bay area”. Patient’s fear of this hacking led to her elopement from a local emergency department in San Luis Obispo County and the subsequent police chase that ended in Tulare County when patient was taken to another local hospital ED for a psychiatric evaluation. The patient admitted to using many THC tablets in rapid succession prior to admission, in the setting of severe stress from her partner passing away and the loss of her previous housing. Urine toxicology was positive for cannabinoids only. The patient’s son confirmed the patient had no history of psychotic symptoms. The patient was initially treated with quetiapine, however psychotic symptoms continued even at 800 mg nightly. The patient was subsequently switched to risperidone and titrated to 4 mg nightly . The patient appeared to tolerate risperidone well and paranoid and delusional ideation resolved. THC induced psychosis has been

extensively studied in both adolescent and young patients in the literature. However, very few studies have investigated the role of THC in new onset psychosis in older adults. In this poster we will discuss a case report of THC induced psychosis in an older adult and summarize existing research findings about THC use and the risk of psychosis in older populations.

**No. 84**

**Assessing Psychiatry Residents' Confidence in Their Knowledge of Reproductive Psychiatry**

*Poster Presenter: Laurel Alexis Ambrose, D.O.*

*Co-Authors: Bushra Shah, Sherin Moideen, M.D.*

**SUMMARY:**

Reproductive Psychiatry is an area within women's mental health that focuses on treating psychiatric disorders in women during reproductive years. From a 2018 survey of US psychiatry program directors, training within reproductive psychiatry in US residency programs is inconsistent if it is even offered at all. The most common barriers reported by training directors were an already saturated curriculum, lack of expert faculty and time constraints. This has led to a serious shortage of psychiatrists sufficiently trained in women's mental health and reproductive psychiatry, and this in turn contributes to inadequate treatment and increased morbidity and mortality experienced by women in their reproductive years. The National Curriculum in Reproductive Psychiatry (NCRP) has identified six core knowledge areas in which psychiatrists must be competent. There are no known studies surveying psychiatry residents on their experiences with reproductive psychiatry. The purpose of this proposed research study is to gather data from US psychiatry residents' perspective on their subjective confidence level in the area of reproductive psychiatry. Additionally, we would like to assess whether confidence levels will be correlated with the amount of training in reproductive psychiatry received in residency. We plan to administer an anonymous and de-identified survey via Qualtrics to the 42 psychiatry residents at VCU. The survey contains 24 questions which are a mix of both descriptive and quantitative 5 point Likert scale questions addressing the six core areas identified by

the NCRP. Once the results of the focused survey at VCU are obtained, we plan to administer the survey in an online capacity to all US psychiatry residents. The survey will demonstrate whether ongoing gaps within psychiatry residency education remain in the area of reproductive psychiatry as demonstrated in the 2018 survey of program directors. Additionally, more information will be provided regarding resident confidence levels and their experiences in reproductive psychiatry. Possible solutions to educational gaps include developing a curriculum with guidance from the NCRP, training core faculty to provide education in reproductive psychiatry, working collaboratively with OBGYN or primary care to expand knowledge in reproductive mental health and lastly longitudinal integration throughout training. In conclusion, we should bring more awareness to this important field so that new guidelines, recommendations, and practices are not seen as supplementary information or an added burden to an already saturated curriculum, but it should be seamlessly integrated, pervasive, and longitudinal throughout general psychiatry residency training to better serve our patient population.

**No. 85**

**Evaluation of Mental Health Before and During COVID-19 Lockdown: A 4-Year Prospective Follow-Up Study in Medical Students**

*Poster Presenter: Fabrício Petermann Choueiri Miskulin*

*Co-Authors: Amanda Candido Moriconi, Miguel Torrejón, Brenda Neves, Paula Villela Nunes*

**SUMMARY:**

Introduction: Studying in a medical school is a known challenge; doing so in the context of the COVID-19 might be even more enduring given the numerous social determinants related to it. Therefore, the pandemic may have had a great impact on the mental healthiness of medical students (Freitas, G.F.A. Arruda, G.C.F. Arruda and Feitosa, 2021). There are no prospective follow-up studies that analyze mental suffering and empathy in medical students before and during the pandemic. Objectives: To evaluate yearly, along 4 years, Common Mental Disorders (CMD) and empathy in medical students, exploring factors that may be

associated with mental health measures before and during the COVID-19 pandemic. Methods: In this prospective follow-up study, all students from the first to the fourth year of Medical College of Jundiaí (São Paulo, Brazil) were invited to participate in 2018. These students were also invited to participate in the same period in 2019, 2020, and 2021. In 2020 and 2021, students were under strict lockdown because Brazil was facing peaks of COVID-19 infection. They answered the Self-Report Questionnaire-20 (SRQ-20) and the Interpersonal Reactivity Index (IRI). The SRQ-20 evaluates 20 different non-psychotic psychiatric symptoms of CMD and is used to quantify mental suffering (Melado, Vitorino, Szpilman, and Poton, 2019). The IRI evaluates empathy and includes subitems such as Perspective Taking and Empathic Concern (Costa et al., 2017). Results: From 2018 to 2021, we had 1274 answers (72.3% of the sample). Overall SRQ-20 mean scores were  $7.8 \pm 4.6$  (cut-off for CMD screening is 7). Regarding CMD analysis, from 2018 to 2021, a difference was found for SRQ-20 scores ( $8.4 \pm 4.7$ ,  $8.2 \pm 4.6$ ,  $7.8 \pm 4.4$ ,  $6.85 \pm 4.5$ , respectively;  $p < 0.001$ ). Post-hoc analyses using 2018 as the reference category revealed differences only for 2021 ( $p < 0.001$ ). No increase was found for CMD during the strict lockdown period in the pandemic. Regarding the IRI analysis, a difference was found for Empathic Concern scores ( $2.5 \pm 0.6$ ;  $2.8 \pm 0.7$ ;  $2.6 \pm 0.5$ ;  $2.8 \pm 0.7$ , respectively;  $p < 0.001$ ). Post-hoc analyses using 2018 as the reference category revealed differences for 2019 and 2021 ( $p < 0.001$  for both). Conclusion: No worsening of mental health measures was perceived during the COVID-19 pandemic both in the beginning (2020) and one year later, when infections peaked and the population was under strict lockdown (2021). On the contrary, measures of CMD and Empathic Concern improved in 2021. Some factors may have contributed to this scenario such as resilience, psychosocial adaptation and an increase of maturity along 4 years. To finally conclude, despite COVID-19 adversities, mental health stability prevailed, and in 2021, it was observed better mental health indexes in medical students compared to the pre-pandemic period.

## No. 86

### Impact of the COVID-19 Pandemic on the Mental Health of Medical Students

Poster Presenter: Sarthak Angal, M.D.

Co-Author: Bharat Sampathi, M.D.

#### SUMMARY:

Background: Medical education can be rigorous, putting medical students at high risk of developing a mental illness. A meta-analysis in 2016 showed the prevalence of depression amongst medical students was about 27.2% (1). Moreover, rates of mental health problems in the United States have been increasing since the COVID 19 pandemic (2), indicating that there may be a corresponding increase in mental illness amongst medical students. Objectives: Our goal of the study is to understand the impact of the COVID-19 pandemic on medical students. We hypothesize that the prevalence of mental illnesses has increased in this population as compared to years prior to the pandemic. Methods: An anonymous survey was sent to allopathic medical schools in California to be filled out by 2nd, 3rd and 4th year medical students. This survey included questions to assess for anxiety (3) and the Adult Outcomes Questionnaire (AOQ) which incorporates the Patient Health Questionnaire-9 (PHQ-9), a screening tool for depression. The survey also inquired about substance use to cope with stress, and whether students sought professional help for mental health needs. Results: Of students who responded to this section of the survey, 80.56% endorsed symptoms of anxiety and 68.06% endorsed depressive symptoms, of which 18.34% also reported suicidal ideation. Only 49.50% of the medical students endorsing anxiety or depressive symptoms sought help from a mental health professional, while 20.00% endorsed using substances to cope with stress. Discussion: The prevalence of depression and anxiety amongst medical students in our cohort appears significantly high. Furthermore, of medical students who endorsed these symptoms, only half sought professional help. Next steps would be to look at correlations between the stress of COVID 19 pandemic and increased mental illness among medical students. Given that the pandemic is ongoing, we hope to draw attention to mental health needs of medical students and influence



medical schools to direct appropriate and timely resources to this group.

**No. 87**

**Interventions in Medical Student Depression: A Systematic Review**

*Poster Presenter: Kathryn Abell, D.O.*

**SUMMARY:**

Medical professionals practicing in the United States have alarming rates of burnout and depression, as well as rates of suicide that are well above that of the general population. These discrepancies begin in medical school, with students demonstrating increasing depression and suicidal ideation. There has been significant interest by licensing and professional organizations on the most effective interventions to address the issue. A systematic review of the literature from the last 10 years was conducted of studies evaluating interventions to reduce medical student depression, using the search terms medical student, depression, resilience, and wellness. 24 studies were identified and reviewed. Interventions fell into two broad categories, those that directly addressed stressors at medical school, and those directed towards teaching students additional coping strategies or techniques. The most evidence was seen for changes in medical school grading structures and for educational programs incorporating mind/body connection and mindfulness techniques. However, the best results were documented by medical schools that took a multi-pronged approach, addressing root causes of medical student stress as well as working to provide additional stress management techniques and mind/body connection.

**No. 88**

**Clinical Vignette: A Rare Case of LGI-1 Encephalitis Presenting as Schizophreniform Disorder**

*Poster Presenter: Huma Ashai*

*Co-Authors: Juliana Runnels, Zachary Retalis*

**SUMMARY:**

Leucine-rich glioma-inactivated 1 (LGI-1) is a rare autoimmune encephalitis caused by cerebrospinal fluid antibodies to the LGI-1 regions of voltage-gated potassium channel complexes, which are densely

located in the hippocampus and temporal cortex. Common presenting signs and symptoms include memory disturbances, characteristic faciobrachial dystonic seizures, and apathy. It may also be associated with hyperhidrosis, hyponatremia, and insomnia, and the condition can often be mistaken for other neuro-psychiatric disorders. We present a rare case of LGI-1 autoimmune encephalitis. A 75-year-old male with little known past psychiatric history presented with altered mental status and episodic shaking of arms. His medical history was notable for one month of insomnia, hallucinations, and panic attacks, during which the patient experienced overwhelming anxiety, stuttering, paranoia, and abnormal arm movements. Vital signs were temperature 97.8°F, heart rate 70, respiratory rate 20, blood pressure 114/77, and oxygen saturation 97%. Physical exam was notable for episodic abnormal right arm movements, disorganized speech, and a flat affect. He was hyponatremic with sodium of 120 mmol/L. Although alert and oriented to person, place and time, dozens of times per day he had unconscious arm jerking, confusion, and visual hallucinations that he was receiving threatening notifications on his cell phone. A prolonged EEG with video monitoring found no evidence of seizure activity corresponding with his symptoms. Results from CT head, MRI brain, and initial CSF studies from lumbar puncture were unremarkable. His sodium levels normalized on 800 mL fluid restriction and salt tablets, but the hallucinations and dystonic arm movements persisted. Psychiatric diagnoses were considered including schizophreniform disorder as well as delusional disorder. The diagnosis of autoimmune encephalitis was confirmed when antibodies to anti-leucine-rich glioma-inactivated 1 were found in his CSF. He started on a course of methylprednisolone 250 mg IV every 6 hours for 10 days, with a 5-day course of Intravenous Immunoglobulin (IVIG) starting on day 5. He demonstrated improvements in memory, hallucinations, and dystonic arm movements, and after being tapered off methylprednisolone, he was discharged on prednisone. LGI-1 autoimmune encephalitis is a rare condition, and guidelines recommend first-line therapy with high dose corticosteroids, followed by IVIG. One study shows that prognosis for such cases improves greatly if detected and treated before

severe cognitive decline, it is recognized in patients without typical criteria of encephalitis, and aggressive immunotherapy is begun.<sup>3</sup> Prognosis for most patients is good, with up to 80% experiencing resolution of symptoms after treatment. This patient case demonstrates the similar clinical presentation between encephalitis and schizophrenia, both of which are treated vastly differently.

#### No. 89

##### **Is the Insula a Final Common Neuroanatomical Pathway for Schizophrenia, Associated With Its Major Clinical Domains?**

*Poster Presenter: Susanna Gebhardt*

*Co-Author: Henry Nasrallah*

#### **SUMMARY:**

**BACKGROUND:** The insula, located in the lateral sulcus and covered by the frontal, temporal, and occipital opercula, is a central hub involved in many key neurological processes. Its dysfunction plays a vital role in the neurobiology and clinical phenomenology of Schizophrenia (SZ). It participates in several brain networks, including the Salience Network, the ventral frontoparietal attention network, and the Cingulo-Opercular Network, and it is central to interoception, and cognitive, social-emotional, and sensorimotor tasks. **METHODS:** This selective review used Pubmed to identify controlled trials that examined the association between the structure and function of the insula with SZ. 49 reports met our inclusion and exclusion criteria. **RESULTS:** These studies reported that insular abnormalities are associated with the 3 major domains of positive, negative, and cognitive symptoms of SZ, including but not limited to: anosognosia, hallucinations, delusions, formal thought disorder, social withdrawal, attention deficits, working memory, processing speed, impaired olfaction, social perception, empathy, Theory of Mind, alogia, avolition, apathy, linguistic and speech impairments, anhedonia, as well as disruption of interoception, and loss of sense of identity (distinguishing self from others). These symptoms have been correlated to morphological changes to the insula—right insula, left insula, or both, as well as specific areas within the insula, such as the anterior or posterior regions. Insular

abnormalities in SZ included: 1) reduced gray matter volume, 2) cortical thinning, 3) loss of white matter connectivity, 4) hypo-gyrification. Evidence of hyper- and hypoactivation was similarly found, as well as functional connectivity defects. When deficit and non-deficit SZ subjects were compared, the deficit subtype was associated with pathology in the left insula. **CONCLUSIONS:** Abnormalities of the insula structures and functions appear to have a central role in generating most of the clinical symptoms of SZ. It is postulated in several studies that fetal neurodevelopmental anomalies of the insula may produce the psychotic and non-psychotic features of SZ. The extensive connections between the insula and brain areas implicated in SZ such as the frontal, temporal, hippocampal, parietal, and limbic regions may position it as a final common neuroanatomical pathway in the SZ syndrome. Various measurable abnormalities of the insula in children and adolescents may serve as potential biomarkers for susceptibility to developing SZ and the psychotic spectrum. Further research into the insula as a core clinico-anatomical structure is warranted.

#### No. 90

##### **Non-Clozapine Morning Pseudoneutropenia: Illustrative Cases and Literature Review**

*Poster Presenter: Heroldo Palomares Guzman, M.D.*

*Co-Author: Yara Moustafa, M.D., Ph.D.*

#### **SUMMARY:**

**INTRODUCTION:** Psychotropic medications, and particularly antipsychotic drugs are associated with a high risk of neutropenia and agranulocytosis, sometimes necessitating discontinuation of the drug. Clozapine is the treatment of choice in case of treatment-resistant schizophrenia. The prevalence of clozapine-induced neutropenia has been estimated to be 2.8%. Neutropenia may range from a transient phenomenon, which may dissipate without necessitating any changes to medication or doses, to an impending agranulocytosis. When neutropenia occurs, most physicians usually interrupt the treatment and do not reintroduce the drug. However, since clozapine is often the last therapeutic resource, it would be highly beneficial to be certain that the neutropenia is in fact drug-induced and to be mindful of conditions such as

morning pseudoneutropenia in which transient variations in neutrophil count occur during the day.

**CASE DESCRIPTION:** This is a man in the sixth decade of life with a history of chronic schizophrenia who has followed an unstable course of illness, with several medication trials that have been unsuccessful, leading to multiple psychiatric hospitalizations. He has undergone trials with several different antipsychotic medications, including several combination treatments, which have been unsuccessful. The choice of treatment has been complicated by the finding of chronic fluctuating neutropenia, ranging from mild to severe. After closely analyzing pattern of Absolute Neutrophil Count over many years, circadian fluctuations in ANC were observed, which led to the suspicion of morning pseudoneutropenia as a possible explanation for these findings. Hematology consult and bone marrow biopsy were performed. Another similar case will be also discussed.

**DISCUSSION:** In this poster, we would like to highlight the phenomenon of “morning pseudoneutropenia” that exists and has been described in literature. This phenomenon refers to a diurnal variation in absolute neutrophil count that can occur in patients treated with antipsychotic drugs. Although the reasons for such a change in neutrophil count within one day are not entirely clear, it is thought to be due to the effect of circadian rhythm. Circulating blood cells show circadian rhythm even in healthy people. As in the diurnal variations of cortisol production, granulocyte colony stimulating factor (G-CSF) is also known to display a clear pattern. Concentrations of G-CSF increase continuously from their low at 08.00 h to their peak at 10.00 h. We will further discuss the classification and pathophysiology of different types of neutropenia.

**Conclusion:** It would be beneficial to consider that morning pseudoneutropenia exists and has been described, and to rule out the possibility of this diagnosis by simply changing the time of day during which blood is drawn for the neutrophil count, before discontinuing the current treatment.

**No. 91**

**Suicidal Ideation in the Setting of Functional Neurological Symptom Disorder: A Case Report**

*Poster Presenter: Joseph Andrew Legan, M.D.*

**SUMMARY:**

**Background and Aim:** Functional neurologic symptom disorder (conversion disorder) is a psychiatric condition in which there are neurologic symptoms, such as numbness, weakness, or dizziness, without evidence of a structural disease process. It has been documented that suicidal ideation is more common in patients with “unexplained” neurologic symptoms, compared to those with “explained” neurologic symptoms. The diagnosis and treatment of conversion disorder is critical in decreasing morbidity and mortality. We present a novel case report of a patient diagnosed with functional neurologic symptom disorder presenting with suicidal ideation. The patient’s neurologic symptoms resolved once the diagnosis of conversion disorder was fully explained to her, and she no longer reported suicidal ideation.

**Case Presentation:** We present the case of a 63 year old female with a psychiatric history of bipolar I disorder, most recent episode depressed; borderline personality disorder; and posttraumatic stress disorder with an extensive trauma history. She was admitted to a trauma focused unit at an outside psychiatric hospital from December 2020 to February 2021. Later in February, she began to experience confusion, loss of balance, and falls. She was admitted to the UVA general medicine service in March 2021 for recurrent falls in the setting of bilateral lower extremity numbness and weakness. At that time, the etiology was believed to be diabetic neuropathy and deconditioning with a likely functional component. She was discharged to a skilled nursing facility. Still unable to walk independently, she was convinced by her sister to live in an assisted living facility and made to give up her house and car. She presented to the UVA ED in June 2021 with suicidal ideation in the setting of social isolation and loss of independence at her assisted living facility. She knew she was diagnosed with functional neurologic symptom disorder, but she did not know what the diagnosis meant. After explaining the diagnosis with her and working with physical therapy, her symptoms subsided. She was able to walk without assistance, her suicidal ideation improved, and she was eventually able to return to independent living.

**Conclusion:** This is a report of a patient who developed suicidal ideation after losing her capacity to live independently secondary to

misunderstanding her diagnosis of functional neurologic symptom disorder. She believed there was a structural neurologic cause of her weakness. Once the diagnosis was explained, she grew more confident in her ability to overcome it, and within days, she was walking independently. Because living independently was then attainable, her thoughts of suicide subsided. This case study is clinically applicable, as early diagnosis of conversion disorder is associated with a better prognosis, and there are other reports of conversion disorder resolving after the diagnosis was explained.

#### **No. 92**

##### **Elevated Blood Glucose and Trauma Processing, How Medical and Psychological Factors Can Predispose Our Patients to Suicide**

*Poster Presenter: Barrett William Bradham, M.D.*

*Co-Authors: Josephine Pardenilla Horita, D.O., Jack W. Davis, D.O.*

#### **SUMMARY:**

The views expressed in this abstract/manuscript are those of the author(s) and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the US Government. Mrs. Y is a 43 year old female activated Hawaii National Guard service member with a past psychiatric history of major depressive disorder who presented to the emergency department due to an impulsive, self-interrupted suicide attempt in the context of glucose abnormalities and recent processing of childhood and combat-related traumas. She was admitted to the medical floor initially due to a blood sugar level of 441, prior to receiving insulin drip therapy. Following improvement in her blood sugar, she was initiated on metformin 500 mg twice a day and transferred to the inpatient psychiatric unit for further psychiatric evaluation, treatment, and stabilization. There are two major factors worth exploring in this patient's presentation. Firstly, this patient's hyperglycemia on admission could have contributed to an altered mental status change that resulted in patient acting with greater impulsivity compared to her baseline. The patient had never carried a diagnosis of diabetes prior to this admission, and she was unaware up to this point that her blood sugars had been abnormally high.

Secondly, 3 days prior to her admission, she revealed a history of childhood and combat trauma to her counselor whom she was seeing as a part of an intensive outpatient behavioral health program. This counseling session was not meant to be focused on trauma, and in fact, the patient had never disclosed to anyone that she had a history of childhood trauma. This combination of medical and psychological stressors appear to have predisposed our patient to an impulsive, unplanned attempt to end her life. Per the patient's statements and medical chart reviews, while she had some passive suicidal ideation in the past, she had never attempted suicide before this, nor had she formulated any plan to do so. When interviewing the patient following resolution of her hyperglycemia, she was unable to identify why she felt such an intense, short onset urge to end her life. However, she was able to demonstrate insight into what she described as a "confused and irritable" mental state during the days following her divulgence of her underlying trauma history. Through the lens of this case study, we will discuss the importance of understanding medical comorbidities associated with psychiatric illness as well as the potential for worsening symptoms of anxiety and depression immediately following trauma processing therapy sessions.

#### **No. 93**

##### **Digital Mental Health Policy: Hurdles and Opportunities for Health Equity and Access**

*Poster Presenter: Kelila Kahane*

*Co-Authors: Josie Francois, John Torous, M.D.*

#### **SUMMARY:**

**Background:** Digital mental health has grown tremendously over the past decade and now further with the COVID-19 pandemic. Digital mental health can increase access to mental health care if delivered and developed properly, but safety and poor efficacy are tangible risks that remain common. In light of this, understanding current government policies from the FDA and FTC is critical to ensuring patient safety and meeting the promise of increased access equity. **Methods:** We conduct an analysis of U.S. published evidence, government websites, grey literature, and media outlets to clearly outline and

define the current regulatory landscape and the challenges inherent from an equity perspective. We present the marked discordance around digital mental health policy, as these frameworks grapple with the challenges of regulating in this sphere.

**Results:** The U.S. regulatory landscape is very much in flux, and definitions of what classifies as wellness vs. medical apps are significantly blurred, particularly in psychiatry. Some challenges include defining the scope and level of risk of mental health apps, creating processes that can update evaluation with software updates, lacking better data to inform evaluation, and educating users about the risks and benefits. Moreover, as the digital divide is a substantial barrier to care access, it will become crucial that regulatory agencies create avenues for CMS and other payers to fund access to these new technologies. **Discussion:** We propose five next steps for guiding any future policy: (i) clear clarification of the categorical status of mental health apps; (ii) objective methodology for assessing apps on a premarket basis which does not solely rely on self-reporting; (iii) well-designed, detailed procedures for iterative post-market app review; (iv) clinician and patient education which empowers users to make smart mental health app choices; (v) as mental health apps become central to mental healthcare delivery, greater care must be paid to who will be able to access these apps. Furthermore, policies must provide financial incentives to developers to consider equity and recognize the digital divide as a social determinant of health.

#### **No. 94**

##### **Virtual and Augmented Reality in the Diagnosis and Treatment of Psychotic Disorders—a Systematic Review of Literature**

*Poster Presenter: Lucy Lan, M.D., M.B.A.*

*Co-Authors: Chelsea Ji, Andrea Spencer, M.D., Jennifer Sikov, Julia Lejeune*

#### **SUMMARY:**

Although commonly used in creative industries, virtual reality (VR) and augmented reality (AR) can be valuable tools in the field of psychiatry to improve patient care and clinical outcomes, such as medication compliance, motivation, and rehabilitation. Emerging evidence has begun to

establish that AR/VR interventions might be acceptable to patients with psychosis, but the effectiveness and application of these treatment strategies remains unclear. This review addresses this knowledge gap and is the first study to comprehensively investigate AR/VR applied to diagnosis and treatment of serious mental illness, without limiting geographical setting, publication year, and diagnostic presentation. We systematically searched and reviewed 2069 studies utilizing AR/VR in psychosis-spectrum populations. Twenty-three original articles met inclusion criteria. No studies utilizing AR were found. Included studies demonstrated the diagnostic application of VR, as well as its use in targeting various symptoms and outcomes of psychotic disorders, including positive symptoms, anxiety, and deficits in social skills, cognition, and physical activity. The majority of studies demonstrated that the addition of VR therapeutic approaches to treatment-as-usual was more effective than treatment-as-usual alone. Studies also support the feasibility, safety, and acceptability of VR to patients. VR could prove to be highly effective in reducing symptoms, as well as enhancing physical health, quality of life, and psychosocial functioning among populations with psychotic disorders. However, the diversity of VR treatment modalities, treatment targets, and small sample sizes in this corpus of studies elucidates the limitations of the existing evidence and the crucial need for more research in this promising area. **Keywords:** Virtual Reality, Psychosis, Schizophrenia, Treatment, Diagnosis, Immersive

#### **No. 95**

##### **Motherhood During COVID-19: The Impact of the Pandemic on Mother-Infant Bonding and Mental Health Symptoms in Perinatal Women**

*Poster Presenter: Matthew Lewin*

#### **SUMMARY:**

Purpose: COVID-19 has imposed new challenges to an already demanding period for perinatal women. Particularly vulnerable are women with posttraumatic stress disorder (PTSD). Building on evidence that stress can exacerbate PTSD, we explored associations between adverse pandemic-related perinatal experiences and maternal PTSD.

Methods: Women (N=388) who gave birth after March 2020 completed a cross-sectional survey that included the Epidemic-Pandemic Impacts Inventory (EPII) and the Brief PTSD PCL-5. The sample (Mean Age = 32.7, SD=4.3) self-identified as White (81%), Asian (6%), Black (6%), biracial (5%) and “other” (2%). One-fifth identified as Hispanic/Latina. Most had partners (93%) and were employed (80%). Results: Linear regression revealed that greater pandemic-related adversity in the areas of physical health ( $\beta=.11$ ,  $p=.041$ ), family conflict ( $\beta=.16$ ,  $p=.003$ ), isolation/quarantine ( $\beta=.13$ ,  $p=.024$ ), and prenatal ( $\beta=.12$ ,  $p=.036$ ) and labor/delivery healthcare experiences ( $\beta=.19$ ,  $p=.002$ ) associated with greater symptom severity. Conclusions: Adverse pandemic-related experiences, including perinatal healthcare experiences, may serve to exacerbate symptoms of PTSD; however, this analysis cannot determine directionality. Findings may inform targeted interventions for reducing the impact of similar public health crises on stress-related symptoms among pregnant women and new mothers.

#### No. 96

##### **Third Largest Non-Nuclear Explosion in Beirut Results in Significant PTSD Symptoms in Lebanese Residents**

*Poster Presenter: Nagham Bazzi*

*Co-Authors: Joanna Abi Chebel, Antoine Salloum, Mariam Bazzi, Margarita Abi Zeid Daou*

#### **SUMMARY:**

On August 4th, 2020, the third-largest non-nuclear blast occurred in Beirut, Lebanon, causing the death of at least 200 persons. (1) Additionally to the human tragedy, 9 of the capital's hospitals were damaged by the explosion and a significant increase in the daily number of positive COVID-19 cases was reported. (2, 3) The objective of this study was to screen for PTSD among the Lebanese population one month following the blast. A cross-sectional web-based online survey was conducted between September 10th and November 10th, 2020. The questionnaire shared investigates participants' demographics, location during the explosion, physical and material damage caused by the blast, general lifestyle habits, health status pre and post-

blast, and PTSD checklist for DSM-5 (PCL-5). Eligible participants were literate Lebanese citizens residing in Lebanon during the blast. Questionnaires were available in English or Arabic. Data analysis was completed using the SPSS program. A total of 916 participants, with a mean age of 30.18 years, participated in the study. Results revealed a significant decrease in weight, income, fast food consumption, and health rate after August 4th. Additionally, there was also a significant increase in medication intake for medical and mental issues and caffeine intake. A significant increase on the PCL5 score was associated with female gender, house ruined by the explosion, being injured by the explosion, having a friend or a family member dead or injured during the blast. In conclusion, a closer physical distance to the Beirut blast leading to physical damage was associated with a significant decrease in general health habits among participants and an increase in the PCL5 score and therefore predisposing them to a diagnosis of PTSD. More studies are necessary to assess the long-term effect of the blast on the Lebanese population.

#### No. 97

##### **“I Woke Up With My Hands on His Neck”: A Case Report of Perinatal Exacerbation of Complex Posttraumatic Stress Disorder**

*Poster Presenter: Marlee Madora*

*Co-Authors: Samantha Labib, Rubiahna Vaughn*

#### **SUMMARY:**

**Objectives:** • Define perinatal Complex Post-Traumatic Stress Disorder (CPTSD) • Describe the risk factors for perinatal CPTSD exacerbation • Illustrate the impact of the coronavirus pandemic on mothers with CPTSD • Identify resources for comprehensive perinatal trauma-informed care

**Introduction:** Complex Post-Traumatic Stress Disorder (CPTSD) is characterized by trauma-related symptoms as well as affect, interpersonal, and identity dysregulation (Ford, 2019). We present the case of a woman with CPTSD who experienced an episode of violent dissociation in the postpartum period to illustrate the diagnostic nuances of CPTSD, risk factors for dangerous behavior, and treatment considerations for women in the perinatal period.

**Case:** The patient is a 33-year-old married woman

with two young children and a history of post-traumatic stress disorder, not currently on psychotropic medications, who presented for psychotherapy during the coronavirus pandemic to target interpersonal difficulties with her husband. During the initial evaluation, she disclosed a history of prolonged childhood sexual abuse at the hands of her father. The patient had an unplanned yet desired pregnancy during treatment. After delivery, the patient endorsed worsening post-traumatic symptoms including intimacy avoidance, hypervigilance, and intrusive memories. At three months postpartum, she had an episode of violent dissociation towards her husband while engaging in sexual activity. **Conclusion:** This case demonstrates how CPTSD symptoms can be exacerbated in the postpartum period secondary to the reenactment of attachment trauma (van Dijke et al., 2015). Biopsychosocial risk factors such as hormonal fluctuations, sleep disturbance, physiologic and emotional demands of motherhood, attachment insecurity, and pandemic-related factors such as loss of structure or support should be assessed and addressed to promote bonding between mother, father, and offspring (Chamberlain et al., 2019).

#### **No. 98**

#### **From Toking to “Boking”: A Novel and Effective Approach to Cannabinoid Hyperemesis—a Case Study**

*Poster Presenter: Nathan Carroll, D.O.*

#### **SUMMARY:**

Ms. J is a 33 y/o female with a past medical history significant for gastritis, morbid obesity, depression and anxiety, who presented to the hospital following three days of unrelenting nausea and vomiting (n/v) and one episode of diarrhea. She reports multiple such n/v episodes in the past, with each event preceded by smoking marijuana. Physical exam was remarkable for diffuse abdominal pain. She had no recent sick contacts and denied any recent travel. Labs displayed some hypokalemia (3.3). A review of her chart showed multiple hospital admissions since 2017 for nausea and vomiting. When discussed, Ms. J stated that smoking cannabis helps control feelings of anxiety and depression. She is currently on 20mg of Fluoxetine, but felt that it didn't control her

anxiety or her depression. Initially attempts were made to control her n/v with ondansetron and metoclopramide. Neither was effective, and in fact, her n/v appeared to get worse. Hot showers did help, but only temporarily. On the fourth day of her stay, sumatriptan and capsaicin cream were administered. Both have antiemetic properties. The patient responded dramatically very well to both drugs and within one day was both symptom free and eager to be discharged. **Conclusion:** Cyclic Vomiting Syndrome (CVS) and Cannabinoid Hyperemesis (CH) are two closely related syndromes. CVS is defined by two or more periods of intense, unremitting nausea and paroxysmal vomiting, lasting hours to days within a 6-month period. Along with episodes being attributable to another condition, stereotypical, and separated by weeks to months with return to baseline<sup>1</sup>. CH is similar to CVS, but it is preceded by frequent, often daily, cannabis use<sup>1</sup>. Paradoxically, marijuana is sometimes used as a way patients self-treat CVS, whereas it triggers CH. Both CVS and CH are often relieved with hot water bathing. Ondansetron and metoclopramide were ineffective at relieving nausea during the first 3 days, but hot showers did help. A research review identified capsaicin cream and sumatriptan as potential therapies. Literature suggests that the capsaicin may decrease hospital stay and works by activation of transient receptor potential vanilloid-1 leading to desensitization analgesia which may mimic the effectiveness of the hot showers<sup>2,5</sup>. Sumatriptan, often used for migraine headaches and has been identified as an effective abortive for cyclic vomiting syndrome<sup>3,4</sup>. Our patient's nausea fully resolved in one day after three applications of the cream and one dose of Sumatriptan. Depression, anxiety, and lack of employment were cited by the patient as the reasons why she routinely smokes marijuana, despite its deleterious effects. We addressed this by increasing her prozac from 20mg to 40mg and encouraging her to participate in CBT. Finally, we worked with the patient to set up a consistent schedule for follow up appointments to address her mental health needs. To date she has attended her appointments and has had no readmissions.

No. 99

**Serial EEG May Provide Novel Insights Into Neural Mechanisms Underlying Therapeutic Transcranial Magnetic Stimulation**

*Poster Presenter: Camila Souza Alves Cosmo, M.D., Ph.D., M.Sc.*

*Co-Authors: Amin Zand Vakili, Jose Garcia Miranda, Noah Philip*

**SUMMARY:**

**Background:** Repetitive transcranial magnetic stimulation (rTMS) has been available for over a decade for treatment-resistant depression, with data emerging supporting its use in a broad range of neuropsychiatric diseases. Nevertheless, the mechanism of action of rTMS and its effects over time still is not fully understood. Prior quantitative electroencephalography (qEEG) studies have indicated promising findings of underlying mechanisms of rTMS, previous trials have relied upon comparing qEEG before versus after treatment. Since clinical improvement is not linear over time, multiple EEG acquisition over a course of rTMS may yield novel observations that can inform our understanding of mechanisms underlying TMS and inform novel treatment protocols. **Methods:** Serial resting-EEG activity was measured in six patients with TRD who received up to 30 sessions of rTMS (5Hz, 120%MT, 3,000 pulses/session, left dorsolateral prefrontal cortex). Ten minutes of eyes closed, 64-channel EEG was recorded pretreatment, after 10 (T1) and 20 (T2) sessions, and immediately after the last treatment (T3). The main outcomes were differences in the FFT-based power spectral analysis over time as measured by qEEG using the EEGLAB/MATLAB software system (Mathworks, Inc.). **Results:** One-way repeated measures ANOVA showed a significant decrease in the absolute power in the beta band over the left dorsolateral prefrontal cortex ( $F(3, 15) = 3.58, p = 0.039$ ), with effects observed at T1 and progressing over time. No other significant changes were observed in delta, theta, or alpha power following the stimulation sessions ( $p = .05$ ). **Conclusion:** These pilot findings indicate the potential of serial EEG to monitor rTMS-induced changes in cortical networks during treatment. Our results demonstrated that rTMS elicited a reduction in beta power over time, starting as early as after the first ten sessions; this is consistent with prior

findings associating beta power with therapeutic response. These data support the development of serial EEG as a rTMS biomarker that may track, and can potentially predict, rTMS response over a course of treatment.

No. 100

**Identifying and Managing Virtual Fatigue in Psychiatric Residents and Faculty**

*Poster Presenter: Kody Brindley, M.D.*

**SUMMARY:**

Many things have changed in a post-Covid world, including the way we educate psychiatric residents. As the public health crisis raged, many residency programs moved to a virtual or hybrid mode of didactic and clinical instruction. This change was abrupt and did not allow for much advanced planning in regard to user experience. After living with these new implementations for over a year, we now are able to identify a unique challenge of virtual learning - virtual fatigue. Virtual fatigue is a specific type of fatigue that is similar to burnout and is experienced as a result of spending more time in front of a screen and less time face to face with learners, faculty, and patients. Though virtual platforms may seem like a good substitute, there are some significant drawbacks. It is harder to decipher emotional content via video and so it takes more effort to engage in virtual didactics or in telehealth sessions. Learners and faculty must also contend with the limitations of our remote environment, including internet access reliability, privacy, and professional appearance of the workspace. Often learners and faculty are left feeling a diminished sense of fulfillment and enjoyment with virtual instruction as compared to in person experiences. This fatigue may also appear as avoidance of video calls, decreased engagement in virtual learning sessions, difficulty multitasking or staying focused, or as irritability and tension. We have encountered many reports of increased fatigue, decreased satisfaction with work, and feelings of isolation in our residents and faculty as a result of virtual learning, signaling that it is time to make some changes. In this poster presentation, we will discuss how to identify virtual fatigue in our learners and faculty, explore the impacts of remote learning on



our trainees and faculty, and offer ideas on how to improve the experience by mitigating this fatigue through one on one intervention and thoughtful curriculum design in not only our training program, but in others as well.

#### **No. 101**

##### **Pranayama for Insomnia Relief: What Type of Evidence Exists?**

*Poster Presenter: Raju Bhattarai, M.D.*

##### **SUMMARY:**

**Aims:** To explore the scientific basis of sleep induction through yogic breathing. **Background:** Pranayama, also called yogic breathing, is an umbrella term for 8 major breathing exercises (Bhastrika, Bhramari, Ujjayi, Murcha, Plavini, Shitali, Shitakari, and Nadishodhan). This method originates from the ancient technique of yoga and has been adopted as a non-medicinal remedy to induce sleep. The brief exercises are easy to learn and follow, unlike the traditional yoga postures. The mechanism by which they bring about the soporific state however has not been well explored. This review investigates the biological rationale behind the somnifacient potential of self-regulated breathing. **Methods:** Four open-access databases were searched for review: Medline, Biomed central, Europe Pubmed, & Google Scholar using the keywords: breathing exercises, pranayama, sleep induction, and insomnia. Names of the individual pranayama exercises were also combined with these keywords. The review was done with the emphasis on inclusion criteria: 1) clinical trial or review articles 3) subject of pranayama researched as an intervention for insomnia 3) mention on the mechanism of sleep induction. The exclusion criteria were: 1) studies on combined yoga approaches i.e dhyana (meditation), asana (posture), 2) studies that combined other non-pharmacological modalities (e.g. Progressive Muscle Relaxation, CBT for Insomnia), 3) Studies that included other illnesses along with insomnia eg cancer, COPD. After removing the duplicates, the abstract was screened of 34 articles. Twenty papers relevant to the area of interest were included in the study. Ten of the selected articles studied proper pranayama techniques and 10 studies included breathing

exercises that resembled pranayama (e.g. purse lip exercise, diaphragmatic breathing exercise). **Results:** The sleep induction mechanisms could be classified into neuroanatomical, biochemical, physiological, and psychological categories. The most prominent backgrounds tracked were 1) sympathetic/parasympathetic nervous system balancing mediated 2) lung capacity, respiratory function, upper airway patency, hypercapnia induced 3) ACTH, cortisol, and improved inflammatory profile related. The possibility of a hypothesis from a cognitive and behavioral sciences perspective (conditioned moderation toward a tranquil mind) could be anticipated as a direction for future research. **Conclusions:** Pranayama techniques bear physiological and biochemical evidence toward sleep-promoting potential. Neuroscientific hypotheses can also be traced frequently however the extent of investigation in all these areas is narrow. The quality of research varies from reviews to clinical trials. Most of the hypotheses do not converge to a point of clarification. There have been doubts by the peers on the most plausible mechanisms of hypercapnia and vagal stimulation. There is no related work found from the last decade therefore the inclination toward this topic could be graded as 'sporadic'.

#### **No. 102**

##### **Intergenerational Transmission of Trauma: Expanding Knowledge on Methylation of the FKBP5 Gene Following the Rwandan Genocide**

*Poster Presenter: Belinda Busogi, B.S.*

*Co-Author: Cristiane Duarte*

##### **SUMMARY:**

Intergenerational trauma transmission (ITT) is a phenomenon in which the impact of a traumatic experience can be passed directly (F0 to F1) from a person or group in one generation to the following generations (Yehuda & Lehrner, 2018). The process of ITT is only beginning to be understood since the impact of trauma is such a complex and multidimensional effect. Available data suggest mechanisms through which genocidal cycles that hinder Africa's growth may have a sustained impact. Improving knowledge about such mechanisms can bring light to opportunities to foster resilience. The

correlation of the maps of previously reported genocides and the Global 2020 inequality-adjusted Human Development Index may reflect, among others, the influence of intergenerational trauma transmission. To avoid perilous situations, many African refugees flee to neighboring countries, where they face additional post-migration stressors (Steel et al., 2019). Unhealed psychological traumas following genocides, such as the one in Rwanda, may make unity and reconciliation more elusive (Staub, 2015). To end the cyclic intergenerational trauma transmission, more research is needed to develop techniques to treat mental health in African countries. In epigenetic research, DNA methylation, which impacts gene expression without affecting the DNA sequence, has piqued interest. Long-term disruption of the stress response may be caused by epigenetic alterations of genes involved in the HPA axis which may explain why children of trauma survivors with PTSD have higher cortisol levels in recent studies. Several putative genes have been explored in gene-by-environment interaction studies of PTSD, with FKBP5, which binds protein 51 (FKBP5) and affects glucocorticoid receptor sensitivity, receiving a lot of attention (Hawn et al., 2019). Similar FKBP5 methylation levels in Holocaust survivor parents and their offspring were one of the first associations of preconception parental trauma with epigenetic modifications that seem to be evident in both exposed parent and offspring (Yehuda et al., 2016). Replicating this study with Rwandan genocide survivors could shed light on possible intergenerational effects on FKBP5 methylation in the African context, potentially validating FKBP5 trauma transmission hypotheses. The only stress gene investigated in Rwanda is NR3C1, which showed that PTSD was associated with epigenetic changes in mothers and their children who were exposed to the genocide during pregnancy (Perroud N., et al., 2014). Deciphering the role of epigenetic mechanisms in intergenerational influences may lead to a better understanding of how personal, cultural, and societal experiences pervade our biology through proposed, multigenerational analyses. By examining methylation of the FKBP5 gene following the Rwandan Genocide, this poster aims to establish theories on reducing the effect of intergenerational trauma transmission following genocides.

### **No. 103**

#### **Together We RISE: Promoting Discussions of Race in a General Psychiatry Residency Program**

*Poster Presenter: Laika Simeon-Thompson, M.D.*

*Co-Authors: Maia L. Ou, M.D., Sarah Marks, M.D., Melissa Beattie, M.D.*

#### **SUMMARY:**

Background: Structural racism describes how social forces like institutions, ideology, and culture interact to produce and maintain racial inequity. Structural racism can explain disparities healthcare and employment. BIPOC medical trainees have described wanting to discuss race but have experienced faculty as being difficult to engage with in these discussions. Methods: A group of psychiatry residents at a Northeastern psychiatric hospital founded an anti-racist organization, RISE (dismantling Racial Injustice and promoting Systemic Equity), to educate the local medical community, navigate difficult conversations about race, promote equity in patient care and education, and support BIPOC trainees. Initial activities included a vigil to honor BIPOC lives lost through racism and police violence, a workshop by Dr. Kenneth Hardy to interrogate attitudes towards race, and a resident-run teach-in to provide overviews of a broad range of topics including cultural appropriation, incarceration, minority tax, and racism in healthcare. These led to initiatives including performing an anti-racist review of residency applications, conducting research into race-based disparities in patient care, and developing an in-depth teach-in series that explored racism in the workplace, anti-racist patient care, and violence against AAPI communities. At the end of the academic year, 51 ZHH Adult Psychiatry residents were emailed an anonymous Google Forms survey about their experiences with RISE and RISE activities. They were given two weeks, including 15 minutes during a RISE-sponsored noon lecture, to complete the survey. Results: 30 of 51 residents (59%) responded to the RISE survey. Of respondents, 90% found the racism and allyship workshop to be impactful. Residents reported that the workshop provided a shared language, culture, and conceptual understanding for navigating and sustaining conversations on race and taught a framework for

how to grow as an ally and as a racial being. 96% felt that RISE affected their resident experience. Residents reported that RISE created a safe “brave space” to discuss and process minority experiences, to explore racial identity, and to obtain peer support. Residents reported feeling inspired to become more meaningfully engaged in local community efforts. 70% of respondents reported having become more comfortable discussing race. Conclusion: A resident-run, multi-pronged anti-racist organization whose initiatives included an expert-led workshop on racism and allyship, a resident-run teach-in series, racial disparities research, a resident-run anti-racist review of residency applications, and community outreach, was effective in opening a conversation about race amongst residents at a general psychiatry residency program. About a year after the founding of RISE, most residents found RISE initiatives to be impactful and felt more comfortable discussing race.

#### **No. 104**

##### **Cultural Competence Education in Medical School Curriculum: Thematic Analyses of Program Designs and Qualitative Outcomes**

*Poster Presenter: Jessica Thai, M.D.*

*Co-Authors: Mang-Tak Kwok, M.D., Shinn-Yi Chou, M.D., Rameshwari Tumuluru, M.D., Lucy Gao*

##### **SUMMARY:**

**Objectives:** Cultural disparities in healthcare are well known, with racial and ethnic minorities consistently demonstrating worse outcomes in various health quality measures. Educators have advocated for increased cultural competence to address this gap. One difficulty in determining the optimal curriculum lies within the challenges of assessing outcomes. We address this via a summary of selected institutions’ approaches in disseminating cultural competence and analyzing educational leaders’ perceptions of effectiveness. **Methods:** Narrative responses from seven institutional leaders involved in cultural competence education were solicited via email from four institutions. Solicitations inquired about cultural competence dissemination and assessment, as well as education leaders’ perceptions of their institutions’ successes and barriers. Corresponding responses were solicited from selected students

with diverse backgrounds at these institutions. Qualitative content analysis was used to identify thematic and categorical validity. Results: Analysis of responses identified three main themes: 1) Understanding cultural sensitivity through appreciation of individual differences, 2) Faculty role modeling through self-reflection, and 3) Approaching cultural competence with humility. All educators highlighted the importance of reinforcing cultural sensitivity irrespective of the phase of medical school. Faculty also provided extensive personal life experiences as motivators for becoming culturally aware providers and teaching students through role modeling. Faculty explained that it was important to reflect on one’s own development and vulnerabilities during their medical school training. Finally, the theme of humility was deemed as essential for appropriate self-monitoring. Faculty identified the importance of institutions supporting student groups, so students may gain humility through outreach. Conclusions: Despite recognition of cultural influences in healthcare, no unifying curriculum exists for training programs. This study identifies three specific themes championed, with the goal of fostering these principles within students so that they may incorporate them into their daily clinical practices.

#### **No. 105**

##### **Cardiometabolic Comorbidity Risk in Pediatric Patients With Psychiatric Illnesses: Results From Case-Control Nationwide Inpatient Study**

*Poster Presenter: Ozge Ceren Amuk, M.D.*

*Co-Authors: Anil Bachu, Rikinkumar S. Patel, M.D., M.P.H.*

##### **SUMMARY:**

**Objectives:** To delineate the differences in the cardiometabolic comorbidities in pediatric patients with medical versus psychiatric illnesses and to determine the risk of association between a spectrum of cardiometabolic comorbidities in the pediatric patients with a broad range of psychiatric illnesses. **Methods:** We conducted a case-control study using the nationwide inpatient sample (NIS) and included 179,550 pediatric patients (age 10-18 years) hospitalized for psychiatric illness (N = 89,775) and medical illness (N = 89,775). Independent

binomial logistic regression models were used to evaluate the adjusted odds ratio (aOR) of association for cardiometabolic comorbidity with psychiatric illnesses compared with the patients with medical illnesses. **Results:** The majority of pediatric patients with psychiatric illness were females (58%) and White (62%), with a mean age of 15 years. Cardiometabolic comorbidities were higher in patients admitted for psychiatric illness, with a higher prevalence of hypothyroidism (1.6%) and obesity (7%) than those hospitalized for medical illnesses. Compared to the patients with medical illnesses, patients with psychotic disorders (OR 1.7), DBD (OR 1.5), and mood disorders (OR 1.3) had higher odds for comorbid hypothyroidism. There was a lower risk of association with diabetes and hypertension in patients with psychiatric illnesses. On the contrary, the risk of comorbid obesity was highest for patients with DBD (OR 2.3), followed by mood, anxiety, and psychotic disorders (OR 2.0 each) compared to those with medical illnesses.

**Conclusion:** The prevalence of cardiometabolic comorbidities is higher in the pediatric population with psychiatric illnesses compared to those with medical illnesses. The risk is higher for obesity and hypothyroidism and comparatively more among patients with DBD, mood disorders, and psychotic disorders. This calls for timely monitoring of the routine labs and early diagnosis and management of the cardiometabolic comorbidities in the at-risk population. This will also help reduce the detrimental consequences on physical and mental health and improve the quality-of-life of the pediatric patients.

#### No. 106

##### **ADHD Neuroscience Demystified: Increasing Accessibility Through a Novel Conceptualization and Educational Module**

*Poster Presenter: Pallavi Tatapudy, M.D.*

*Co-Authors: Carlos Hallo, Chris Karampahtsis*

##### **SUMMARY:**

Background: Attention-Deficit/Hyperactivity Disorder (ADHD) is common and commonly misunderstood. Stigma surrounding ADHD contributes to incorrect views of the disorder as a volitional laziness or defiance rather than based in

the brain, leading to barriers and delays in identification, diagnosis, linking to resources, and treatment. ADHD is associated with several comorbidities, like depression, anxiety, bipolar disorder, substance use disorders, and personality disorders. Diagnostic and Statistical Manual-5 (DSM-5) criteria and ADHD screening tools denote the symptoms observed in ADHD but do not relate symptoms back to their origins in neural pathways. This disconnect may exacerbate negative stigma. In recent years, there has been more published literature revealing the neuroscience behind ADHD, but the information remains highly disjointed, fragmented, and difficult to digest. Drawing attention to and demystifying the underlying neurocircuitry of ADHD may reduce challenges and provide the foundation for a new platform to educate trainees, patients, families, and school staff to improve patient outcomes. **Methods:** Our team presents a novel conceptualization of ADHD that distills the neuroscience and pathophysiology of ADHD to basic networks and nuclei – the task-positive, task-negative, and reward networks. Thus far, 48 medical students viewed the 19-minute-long evidence-based video module and completed pre- and post-tests to assess clinical knowledge, and the perceived value of a neuroscience platform in understanding ADHD and comfort in the utilization of this information in patient care. This intervention will be continued for medical students, and introduced to psychiatry residents and graduate level fellows in the interdisciplinary Leadership Education in Neurodevelopmental and Other Related Disabilities (LEND) program representing 11 core disciplines (Self-Advocacy, Disability Studies, Family Leadership, Psychology, Social Work, Adult Medicine, Child Medicine, Dental Medicine, Nursing, Public Health, and Physical Therapy). **Results:** Data analysis indicates that medical students reported the “Educational Module on ADHD: Neuroscience Simplified” as a useful learning tool leading to enhanced absorption of the neurobiological basis of ADHD and increased comfort in using this approach for educational purposes to apply in clinical settings. **Conclusion:** Results suggest that our module which correlates ADHD criteria outlined in the DSM-5 with the corresponding neurocircuitry in the brain is a valuable learning alternative for trainees with the potential to reduce the stigma around ADHD and

provide resources resulting in timely diagnosis and appropriate interventions. Reflecting on the social determinants of mental health, our team hopes to improve educational access and quality of care through this ongoing project by expanding its scope to reach relevant disciplines involved in care of patients with neurodevelopmental disorders such as ADHD.

#### **Poster Session 4**

##### **No. 1**

#### **"Doc, I Need an Outpatient Psych Consult!": Incorporating Integrated Care in the Training Curriculum of Child and Adolescent Psychiatry Fellowship**

*Poster Presenter: Souparno Mitra, M.D.*

*Lead Author: Shalini Dutta, M.D.*

*Co-Authors: Lucia Roitman, Samuel Rothman*

##### **SUMMARY:**

Introduction Within integrated care, the collaborative care model has also been established as an effective model to improve access to quality care in the adult mental health population. Many models exist within child and adolescent psychiatry for integrating services including child psychiatry access programs studied in multiple states. Collaborative care models have also been studied with randomized control trials for behavioral problems, ADHD, anxiety and specifically for depression. Despite increases in child psychiatrists into the workforce, access remains a problem. The United States has 9.75 child psychiatrists per 100,000 children aged 0 to 19. However, there is a considerable variation in prevalence per 100,000 children among states, ranging from a low of 3.3 in Idaho to a high of 26.5 in Massachusetts. Child psychiatrists are still overwhelmingly concentrated in metropolitan areas with 70% of counties not having one. Materials and Methods We investigated whether this model was being utilized in the child and adolescent psychiatric training programs. We referred to the ERAS 2021 list of accredited child and adolescent fellowship programs. For every program, we analyzed the website's education and training program links specifically searching for keywords including but not limited to "collaborated care", "co-

located care," "community psychiatry," "integrated care," and "public psychiatry." Results Using these search terms, we gathered data about training/didactic schedules for collaborated/integrated care and found that only 36 out of 136 programs incorporate an integrative care model in their program curriculum. The various modalities in integrated care training that are mentioned include didactic lectures, electives geared towards co-located care, outpatient psychiatric consult services, rotations in integrated pediatric clinics, and Grand Rounds. The duration of these rotations can range anywhere from 1 lecture to 4 weeks at a co-located practice. Discussion We propose that implementing more exposure to this care model within residency training programs and CAP fellowships would be beneficial. We would like to provide an example of a 2-month rotation at our residency program that provides exposure and experience with this model of care to better prepare trainees for when it is time to fully enter the workforce. This rotation includes experience with co-located care, PCP coaching, collaborative care and ambulatory ICU. Co-located care involves patients who require more than collaborative care, but do not need specialty care exclusively. In conclusion, we feel that after close review of ACGME-accredited CAP fellowship websites there is a gap in teaching trainees about this important model that can increase cost-effective and appropriate access to care. Collaborative care can help patients and help use resources appropriately, an issue that is more vital with child/adolescent psychiatry.

##### **No. 2**

#### **Ajp Residents' Journal Podcast Highlights**

*Poster Presenter: Barrington Hwang, M.D.*

##### **SUMMARY:**

Podcasting is a form of digital broadcasting that provides benefits for asynchronous learning beyond traditional printed media. Moreover, this form of media can be consumed at any time, as opposed to previous forms of audio media such as radio, which provides many benefits to the listener compared to other forms of audio media (1). With increasing software resources over the past 20 years contributing to fairly low entry cost, the AJP

Residents' Journal media editorial board started a podcast in 2019 to complement the AJP Residents' Journal itself. The target audience includes those who read the AJP RJ, primarily psychiatric trainees. There are also other episodes that are tailored for individuals without the psychiatric-medical background as well. In this poster, we will illustrate the progression of the AJP RJ podcast over the past years. We will demonstrate, through both statistics, graphs, and received feedback, the success of the AJP RJ podcast through a carefully curated, culturally sensitive, socially conscious approach. We will also display the most popular episodes and topics discussed, including the topics that directly address specific social determinants of health as defined by the US Department of Health and Human Services. Of note, out of all the AJP podcasts, the AJP RJ has the first bilingual and trilingual podcasts. In the most recent two months leading up to this poster submission, the AJP RJ podcast was the second most downloaded of all the eight AJP podcasts, second to only the primary AJP podcast. The trainee experience with creating a podcast will also be discussed, given the wide variety of audio experience by media editorial board members. We will briefly discuss the role of social media as it relates to engaging with listeners and promoting podcast content. Lastly, we will discuss future challenges and areas for improvement, as detailed by our feedback survey, individual feedback through social media, and internal feedback amongst the AJP RJ media editorial board which includes a resident who worked previously as an audio engineer. Overall, the podcast itself decreases the barrier to access high-quality information, serves as a virtual mentor, and offers a learning experience for trainees.

### **No. 3**

#### **Chief Resident of Education Paradigm**

*Poster Presenter: Steven James Sharp, M.D.*

*Co-Author: Sussann Grace Kotara, M.D.*

#### **SUMMARY:**

**Introduction:** Training residents in education is vital and could be improved.<sup>1</sup> A chief resident of education role develops skills and leadership for residents during training. Residents as educators

helps develop the individual's skills and improves education for other residents and medical students.<sup>2</sup> We implemented the chief resident of education role at The University of Texas at Austin Dell Medical School in the 2021 academic year. **Methods:** The role has been developed from input by the Program Director, Assistant Program Directors, the Medical Student Clerkship Director, faculty and residents. Monthly feedback has been implemented from interested stakeholders to evaluate and adjust role. **Results:** Didactic roles include the chief resident of education as a course director and giving lectures in courses for residents and medical students. Support roles include developing and improving access to educational resources and liaising feedback between learners and educators. Mentorship roles include mentoring junior residents and medical students. Administrative roles include attending education curriculum meetings at the medical school and residency level. Interested stakeholders have given feedback that the role has improved education for residents and medical students. **Conclusion:** The chief resident of education role has been successfully implemented in the pilot year. Further improvements include improved integration into the education structure and definition of roles and expectations. More feedback from faculty, residents and medical students will be valuable. The development of a clinician-educator track to improve opportunities earlier in training would develop interest in education and leadership.<sup>3</sup> We would strongly encourage residencies to consider adoption of a chief resident of education role.

### **No. 4**

#### **Comparing Length of Stay Between Resident and Advanced Practice Provider Teams on Adult Inpatient Psychiatric Units**

*Poster Presenter: Wei-Li Suen, M.D.*

*Co-Authors: Samantha Kamp, M.D., Daniel Maeng, Ph.D.*

#### **SUMMARY:**

**Background:** A perception exists that resident teams are more costly than advanced practice provider (APP) teams. In addition, academic medical centers have expanded inpatient medical services with APP teams in response to patient volumes, residency

work hour restrictions, and more recently, COVID-19. While studies show mixed results regarding the impact of resident teams on healthcare utilization and cost of care within medicine, there is limited knowledge that exists within psychiatry. This study seeks to determine if there is a significant difference in length of stay between patients admitted to resident teams compared to patients admitted to APP teams. **Methods:** This retrospective observational cohort study included an electronic database query for adult patients ages 18 and older who were discharged from adult inpatient psychiatric units from Strong Memorial Hospital between January 1, 2019, and June 30, 2021. Length of stay was defined as the difference between discharge date/time and arrival date/time on unit. **Results:** A total of 2,452 hospital admissions were identified during the study period, 1,212 (49.4%) of which were admitted to the resident unit and 1,240 (50.6%) were admitted to the APP unit. The mean length of stay was 15.16 days on the resident unit and 15.17 days on the APP unit. A two-tailed t-test did not show a significant difference in the mean lengths of stay between the two units. **Conclusion:** Similar lengths of stay were observed between the resident unit and APP unit which suggests that clinical outcomes were not significantly affected by inpatient team structure. However, given the perceived difference, further study would be helpful to explore potential confounding factors and why the perception exists. Examining other variables, such as readmission rates, and conducting stratified analyses can provide a more comprehensive picture. If significant differences exist, they may reveal areas for quality improvement projects.

## No. 5

### **“Making Lemonades From Lemons”: Precipitated Opioid Withdrawal by an Opioid Antagonist**

*Poster Presenter: Yesenia Almaguer, M.D.*

*Co-Author: Kelly Jarrett*

#### **SUMMARY:**

Ms. P, a 64-year-old African American woman with a psychiatric history of opioid and alcohol use disorders, is brought to the emergency room for acting “bizarre.” Upon arrival patient complains of “nausea, weakness, tingling, itchiness, burning,

feeling hot and inability to sit still” after receiving an injection for alcohol cravings that “started with a D” at a local outpatient rehab center. On physical examination, patient is hypertensive, tachycardic, tachypneic; she is writhing in the stretcher, screaming, has altered mental status, and not able to follow commands—as such she provides a limited history. The medical team considered the differential diagnosis of disulfiram reaction vs possible alcohol withdrawal with tactile hallucinations. She was initially treated for both possible differential diagnoses and her condition initially improved enabling her to provide more information. However, the patient’s condition suddenly worsened, and was then admitted to the inpatient medicine service. The Medical Toxicology Team and the Addiction Consult Service (ACS) were consulted. Extensive tests were ordered, but some tests were limited as patient continued to worsen and was then admitted to the ICU. Per Medical toxicology, a new differential diagnosis was added to the list: Encephalopathy vs the ones previously mentioned. Moreover, when the ACS saw the patient, she was partially sedated with benzodiazepines, but able to report that she had received an injection at a local outpatient rehab center, two COVID shots, and was able to provide a random address. Although this was concerning for another possible differential diagnosis, the ACS was proactive and found that the patient had received Vivitrol from a local outpatient rehab center while being provided with methadone 70mg daily from a different methadone maintenance program. This led to the patient being in a precipitated opioid withdrawal (POW). Although this scenario was not ideal, the patient was helped by the ACS to make lemonade from lemons by choosing Vivitrol as her primary treatment for both of her substance use disorders and discontinuing methadone. Upon completion, participant will be able to a) define what is a precipitated opioid withdrawal, b) differentiate a disulfiram reaction vs a precipitated opioid withdrawal after receiving an opioid antagonist, and c) describe a possible management of an accidental precipitated opioid withdrawal and the challenges of inducing someone on vivitrol for opioid use disorder who is on methadone maintenance.

## No. 6

### **Antipsychotics for the Treatment of Cannabinoid Hyperemesis Syndrome: A Systematic Review**

*Poster Presenter: Pranita Mainali, M.D.*

*Co-Authors: Saroj Adhikari Yadav, Prashant Matai, Dinesh Sangroula, M.D.*

#### **SUMMARY:**

**Introduction:** Cannabinoid hyperemesis syndrome (CHS) is characterized by cyclical nausea, intractable vomiting, and epigastric or periumbilical abdominal pain seen in heavy, chronic cannabis users (1). Current treatment options include cannabis cessation, supportive care, antiemetics, topical capsaicin, and compulsive bathing/hot showers. Inadequate response to standard antiemetics is commonly reported (2). Antipsychotic medication has antidopaminergic, antihistaminic, and anticholinergic property which could potentially be beneficial for reducing symptoms of CHS, but limited high-quality evidence exists (3,4). The objective of our study is to review and summarize the available literature on the effectiveness of antipsychotics for CHS treatment. **Methods:** A systematic literature search was conducted with the search terms “Cannabis induced hyperemesis” AND “Management or Treatment or Medication” or “Antipsychotics” or “Haloperidol” using PubMed/Medline, and cross-references. The search was not restricted to the time frame or any geographic location. **Results:** A total of 87 studies were identified on the initial search, out of which 4 reviews, 1 randomized control trial (RCT) for Haloperidol, 1 retrospective study for Droperidol, and 4 published case reports (for Haloperidol and Olanzapine) were included, and reviewed. Haloperidol was found to have the most robust evidence followed by Droperidol, and Olanzapine. An RCT conducted on 33 subjects showed that Haloperidol was superior to ondansetron ( $P=0.01$ ), in reducing pain and nausea (visual analogue score difference of 2.3 cm,  $P=0.01$ ), use of rescue antiemetics (31% versus 59%), and shorter stay in the emergency department (3.1 hours vs 5.6 hours,  $P=0.03$ ) (5). Case studies demonstrated significant improvement of CHS symptoms in patients treated with Haloperidol in the ER (6,7) and in the outpatient settings (8). A retrospective study conducted on 76 subjects showed that Droperidol with an average dose of 0.625mg intravenously drastically reduced

the need for antiemetics and overall length of stay at the hospital in comparison to traditional antiemetics (6.7 vs. 13.9 hours,  $p = .014$ ) (9). Olanzapine 5 mg IV/IM or oral provided complete symptom relief of CHS in a case report (10). Notably, all studies included intervention with cannabis cessation and supportive care with hydration. **Conclusion:** With the limited available evidence, we conclude that antipsychotics, mostly Haloperidol, followed by Droperidol, or Olanzapine could be potentially useful for the treatment of refractory symptoms of CHS, especially for the patients who have a comorbid psychiatric illness and/or agitation. However, larger studies need to be conducted to derive more conclusive results.

## No. 7

### **Blue Lotus (*Nymphaea Caerulea*) Psychiatric Symptoms in a Military Population: A Case Series**

*Poster Presenter: Kyle James Hardwick, M.D.*

*Co-Authors: Joseph Daniel Dragonetti, M.D., Andrew K. Mason, D.O.*

#### **SUMMARY:**

Blue lotus (*Nymphaea caerulea*) is a water lily with increasingly available extracts used recreationally via multiple routes. Populations that undergo regular drug screening, like military service members, often find alternative psychoactive substances that do not appear on standard drug tests. Accordingly, there has been increased demand for these types of substances that can be used in atomizers and other electronic cigarettes. Corresponding information available to medical professionals about the use and effects of blue lotus and similar substances remains sparse at this time. This case series describes the psychiatric effects on patients with reported use, as well as the corresponding interventions. For a newly emerging substance of abuse, awareness of the range of symptomatology and related interventions is important for both inpatient and outpatient psychiatrists. Blue lotus is one of many extracts and compounds that are readily available from multiple common online retailers and local establishments. This ease of access can be partially attributed to the legality of purchase and sale of these extracts at this time; online retailers can openly ship it to many areas of the world. Furthermore, these substances



do not show up on most standard drug tests, leading to unchecked use if symptoms are not reported or identified. The observed variability of psychiatric presentation may be patient dependent, but consideration should be given to the purity and validity of the substances being marketed and sold under the description of blue lotus. Research has shown variation in the active compounds found in samples purchased through standard consumer means (Poklis et al., 2017). The cases presented were selected from local psychiatric services in various settings including outpatient, intensive outpatient, emergency department, inpatient medicine, and inpatient psychiatry. Patients reported blue lotus use via various routes of administration and varied symptoms of addiction. Presentations varied from mild anxiety to active psychosis requiring emergent pharmacologic sedation. This case series describes blue lotus use with variable levels of symptomatology, requiring different levels of care. Understanding this variability and recognizing the expanding list of substances used recreationally is important regardless of care setting. Further research into the effects of currently sold products and common additives would be useful, especially for psychiatrists in military and addiction settings.

**No. 8**  
**Likelihood Opioid Use Disorder Patients Referred From the Emergency Room to Remain in Buprenorphine Treatment: A Primary Data Collection Analysis**

*Poster Presenter: Malcolm Vaught, M.D.*  
*Co-Authors: Jayson Tripp, D.O., Scott Klenzak, M.D., Joe P. Shortall, D.O.*

**SUMMARY:**

**Background:** The opioid crisis is devastating patients and communities across the United States. In 2018 there almost 47,000 deaths from opioid overdose, averaging 128 per day. Medication-assisted treatment (MAT) is underutilized in reducing morbidity and mortality of opioid use disorder (OUD) and has proven effective. The emergency room (ER) represents a critical time for identifying and transitioning patients into long term MAT. **Methods:** This project had approval from the Institutional

Review Board and it involved collecting data on new patients with OUS over an initial 6-month period that were seen in the ER by emergency medicine residents, psychiatry residents, and psychiatrists and transitioned into outpatient MAT at the clinic. Patients were followed for an additional 12 month period to determine the effectiveness of OUD patients being retained in MAT treatment when transitioned from the ER. Data was tracked to monitor and compare patient's that followed up with their initial buprenorphine/naloxone (BupNx) outpatient appointment and continued treatment at 3 months, 6 months, 9 month, and 12 month periods. **Results:** 35 patients were tracked from the ER with an average age of 33.6 years old and followed on their attempt to transition to MAT. 14 patients followed up for their initial BupNx outpatient appointment. At 3 months, 5 patients (14%) remained in MAT, at 6 months, 4 patients (11%) remained in MAT, and at both 9 and 12 months, 3 patients (9%) remained in MAT.

**Conclusion:** OUD patients are much more likely to remain in treatment after being consistently in MAT for 3 months. After 9 months no further patients dropped out of MAT that were tracked. Reasons the patient dropped out of MAT were not always clear and ranged from relapsing on opioids, moving, and death. The ER remains a good place/time to transition patients to MAT, and increased time in MAT correlates positively with continued MAT treatment.

**No. 9**  
**Management of Withdrawal From the GHB Precursor 1,4-Butanediol**

*Poster Presenter: Rayad Hakim Barakat, M.D.*  
*Co-Author: Kevin Andrew McLean, D.O.*

**SUMMARY:**

The use of gamma-hydroxybutyric acid regularly cycles through populations for recreational and more recently performance enhancement purposes. As a schedule I drug, legal hurdles add obstacles to its acquisition, although pro-drugs are considerably less regulated. Mr. F, a 31-year-old with a past psychiatric history of ADHD and insomnia presented to the emergency room with a desire to discontinue use of 1,4-butanediol, which he reported buying

online and consuming with increasing frequency for 10 months prior to presentation to self-treat anxiety and insomnia. The patient was admitted to the family medicine inpatient service and very soon thereafter transferred to the internal medicine service for PCU care due to administration of phenobarbital. The patient's last use was on the day of admission, and withdrawal symptoms gradually improved over a week-long admission during which the patient consistently endorsed a preference to leave the hospital and manage withdrawals at home. In this poster, we discuss the treatment course and challenges associated with an extended withdrawal period of GHB as compared to other substances, the unmasking of underlying psychiatric disorders as well as comorbid diagnoses, and limited opportunity for follow-up due to occupational changes. The views expressed in this abstract are those of the author(s) and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the US Government.

#### **No. 10**

##### **Splitting the Dose to Prevent Methadone-Induced Hypoglycemia: A Case Report**

*Poster Presenter: Ramaswamy Viswanathan*

*Co-Authors: Gabriel Spencer Davis, Junaid Mirza*

#### **SUMMARY:**

Hypoglycemia is a not well-known complication of methadone use. A case report and the existing literature will be reviewed here. Mr. D is a 55 y.o. man with well-controlled bipolar disorder (on valproate ER 1,500 mg nightly, hydroxyzine 50 mg nightly, and trazodone 50 mg nightly) and opioid use disorder (on methadone maintenance for the past 6 years, current dose 160 mg daily). His medical comorbidities include chronic deep venous thrombosis with inferior vena cava filter, chronic obstructive pulmonary disease, chronic cholecystitis and unintentional weight loss of 60 lbs in 4 months. He presented to the hospital after multiple episodes of syncope. He reported poor appetite, nausea, and vomiting for 4 months, lightheadedness for 2 months, and episodes of dizziness and fainting for 2 weeks. He had a similar hospitalization 2 months before., when he had recurrent episodes of hypoglycemia. Workup including computed

tomography of the abdomen and pelvis (to rule out insulinoma), morning and random cortisol checks, and upper and lower GI endoscopy with biopsy were all unremarkable. He was discharged on prednisone and instructed to follow up with GI and Endocrine. During current hospitalization, he again experienced recurrent episodes of hypoglycemia for over a week, with glucose levels as low as 30 mg/dL, despite medical stabilization, improving oral intake, and no signs of infection. The endocrinologist obtained an insulin level during hypoglycemic episode, C-peptide level, and performed an ACTH suppression test, ruling out insulinoma and adrenal insufficiency. The cause of the hypoglycemic episodes was presumed to be the patient's methadone regimen. Mr. D refused the primary team's suggestion of decreasing the methadone dose. CL Psychiatry was consulted for medication management. We recommended splitting the total 160 mg daily methadone dose to 80 mg in the morning and 80 mg in the evening, which the patient apprehensively agreed to try. He tolerated the dose adjustment and glycemic control improved almost immediately. Review of literature revealed that this strategy had been successful previously but only documented in the case of a patient with renal insufficiency. Given that lowering daily methadone dose can be vehemently opposed by patients and has a high risk for relapse of opioid use disorder, splitting the daily methadone dose to twice a day may be a viable option to manage methadone-induced hypoglycemia. Increased awareness of methadone as a potential cause of unexplained hypoglycemia will be a further goal of this presentation. The mechanism by which methadone causes hypoglycemia is poorly understood but may include direct action of methadone on pancreatic islet cells, reduced hepatic glycogen stores, centrally mediated decreased hormonal response to hypoglycemia, and serotonin-induced increase in insulin.

#### **No. 11**

##### **Participation in Chemsex and Burden of Psychosocial Syndemics in Men Who Have Sex With Men at Risk of HIV Infection**

*Poster Presenter: Eric Debbold, M.D., M.P.H.*

*Co-Authors: Austin Marshall, Xiaoying Sun, Sonia Jain, David Grelotti*

## SUMMARY:

**Background:** According to syndemics theory, men who have sex with men (MSM) exposed to harmful social conditions can accumulate psychosocial syndemics (e.g., depression, substance use, and trauma), conferring greater risk of HIV infection. Chemsex, i.e., the use of illicit drugs to enhance sexual activity, often involving condomless sex with multiple partners, also confers greater risk of HIV infection. It is not known if MSM who participate in chemsex have a higher burden of syndemics. This study examines the association between chemsex and the accumulation of syndemics. **Methods:** Cisgender MSM with recommended indications for HIV pre-exposure prophylaxis (PrEP), approximately half of whom were recruited because they participate in chemsex, completed self-report assessments of psychosocial functioning. A syndemics count for each participant ranging from 0-8 was calculated based on the presence of clinically meaningful mood disorder symptoms (Bipolar Spectrum Diagnostic Scale =13 and/or Center for Epidemiologic Studies Depression Scale =16), PTSD symptoms (PTSD Checklist for DSM5 =33), alcohol use disorder symptoms (Alcohol Use Disorder Identification Test =8), drug use disorder symptoms (Drug Abuse Screening Test =3), exposure to sexual trauma, exposure to physical trauma, any lifetime injection drug use (IDU), or significant sexual risk behaviors (San Diego Early Test score >0). Poisson regression model was used to calculate an age-adjusted incidence rate ratio (IRR) [95% confidence interval (CI)] to assess the association of chemsex with syndemics count. Logistic regression was used to calculate an age-adjusted odds ratio (aOR) [95%CI] to assess the association of chemsex with each syndemic. **Results:** Thirty MSM enrolled in the study, including 14 who participate in chemsex. Mean age (standard deviation [SD]) was 36.2 (11.8) years. Participants identified as gay (70%), bisexual (27%), or pansexual (3%) and were mainly White (60%) and non-Hispanic (67%). Participation in chemsex was associated with a significantly higher mean (SD) syndemics count (5.14 (0.95) vs 2.40 (1.5),  $p<.001$ ) and incidence rate of syndemics (IRR=2.13 [1.56-2.91],  $p<.001$ ). MSM who participate in chemsex had significantly greater odds of clinically meaningful mood disorder (aOR=13.48 [2.10,86.59],  $p=.006$ ) and drug use disorder (aOR=18.17

[2.76,119.5],  $p=.003$ ) symptoms, exposure to physical trauma (aOR=15.03 [2.16,104.9],  $p=.006$ ), and any lifetime IDU (aOR=8.36 [1.56,44.72],  $p=.013$ ). **Conclusion:** Consistent with syndemics theory, MSM who participate in chemsex had a higher burden of syndemics and may benefit from trauma-informed care and treatment for mood and substance use disorders. As syndemics increase risk of HIV infection and interfere with efforts to prevent HIV, it is critical to integrate PrEP with interventions that address the many psychosocial health problems affecting this population. Supported by the NIH-funded San Diego Center for AIDS Research (P30AI036214).

## No. 12

### A Literature Review Examining Virtual Reality Exposure Therapy for Individuals Diagnosed With Social Anxiety Disorder

*Poster Presenter: Sahar Ashraf, M.D.*

*Co-Authors: Rimsha Arif, Ozge Ceren Amuk, M.D., Alex Van, Shailesh Jain, M.D.*

## SUMMARY:

**Objective:** Our objective is to understand and explore the use of Virtual Reality Exposure Therapy (VRET) in adults with Social Anxiety Disorder (SAD). **Introduction:** SAD is a specific subtype of anxiety disorders that is characterized by feelings of anxiety and discomfort in social situations that include feelings of embarrassment and humiliation [1]. Given the technological advances in the last century, computer technology has been applied in interventions for many medical therapies including mental health disorders. **Methods:** Literature search was conducted using relevant mesh keywords in PubMed and PsycINFO. We included all the published relevant articles within a 10 year time frame, to account for current advanced technological standards, until November 2019. A total of 6 studies met inclusion criteria in our final qualitative synthesis review. **Results:** Results showed a significant reduction in symptom severity based on primary measures in all studies, suggesting that VRET is an effective option in treating SAD. The primary outcome of targeted behaviors included public speaking and social interaction. Studies were analyzed and showed the success of VRET in formats

such as a single-user implementation, one-session treatment and self-training intervention. A study in 2017 by Bouchard et al., showed that Cognitive Behavioral Therapy (CBT) in virtual exposure (in virtual setting) reduced measures of social anxiety on the Liebowitz Social Anxiety Scale (LSAS) when compared with CBT in vivo (in person) with a clinical significance of  $p < 0.05$  [2]. Another study by Kampmann et al. (2015) looked at implementing VRET without any cognitive components as a treatment for individuals diagnosed with SAD. The LSAS measure of social anxiety showed a significant decrease from pre- to post-assessment for VRET compared to the wait-list group ( $p = .014$ , Cohen's  $d = 0.55$ ). Follow-up compared to pre-assessment was significant for VRET ( $p < 0.001$ ). **Conclusions:** The current research supports the effectiveness of VRET in reducing social anxiety symptoms in individuals with SAD. The limitations within most studies included a small sample size and weak ecological validity, specifically the lack of consistency in exposure scenarios between VRET and the comparable treatment option. Future research can aim to examine VRET with a larger clinical sample, broader social behaviors (e.g. eating and performing in public) and assessing VRET as an intervention with minimal therapist input.

### No. 13

#### **New Onset Panic Disorder Following an Infection With COVID-19**

*Poster Presenter: Mohammad Lesanpezheshki, M.D.  
Co-Authors: Rahoul Gonsalves, Elizabeth DeOreo,  
Karina Kowalski, M.D.*

#### **SUMMARY:**

We present a case of new-onset panic disorder in association with COVID-19 infection. A 56-year-old female with a past psychiatric history of Generalized Anxiety Disorder in remission, on Escitalopram 20mg, Amitriptyline 10 mg, Gabapentin 100 mg three times a day and Lorazepam 0.5mg, came to the ED with complaints of episodic shortness of breath, chest tightness, palpitations, sweating, trembling, and intermittent neuropathic pain in her legs which had been on and off since May 2021. She was admitted to the psychiatric inpatient unit as these symptoms were interfering with her activities

of daily living. Patient had contracted COVID-19 with symptoms of headache, sore throat, and myalgia in March 2021 and her current symptoms started after that. Her past medical history was also significant for Neuropathic pain in both lower extremities. During her inpatient stay, the patient was started on Duloxetine 30 mg for anxiety and neuropathic pain, Olanzapine 2.5mg and PRN Trazodone for sleep. As Gabapentin and Lorazepam didn't seem to be effective and had dependency potential they were discontinued. The patient continued to complain about the panic attacks and neuropathic pain that happen during the night, awakening her from her sleep. Amitriptyline and Escitalopram were discontinued, as it was deemed ineffective. Duloxetine was increased to 60 mg and Olanzapine to 5 mg. Patient was discharged on these medications and during follow-up visits continued to show improvement of symptoms and did not report any panic attacks since getting discharged. Discussion: Since the beginning of the 2020 pandemic, there has been an increase in the number of the patients presenting with psychiatric complaints (1). COVID-19 infection may lead to significant neurological and psychiatric sequelae (2). This could also be secondary to the sudden changes in lifestyle, isolation and the economic burdens as a result of the pandemic(3-5), or it could be as a result of both (2). Covid-19 has been shown to cause inflammation, and neuroinflammation (6), and this inflammatory response also has been suggested in a number of studies as a possible etiology for anxiety disorders including panic disorder (7). It is worthwhile to screen for anxiety disorders and other mental disorders, while treating patients who have contracted the virus, especially if they present with severe medical symptoms(8). Our patient presented to the hospital 4 months after being diagnosed with COVID-19, with new onset panic disorder. Despite the fact that the patient has been already on psychiatric medications (Gabapentin, Lorazepam, Amitriptyline and Escitalopram), in order to control her new condition, the medications were gradually tapered and changed to a different class of medications (Olanzapine and Duloxetine). Other case report studies with panic disorder onset following COVID-19 infection have also had positive outcomes with patients taking Vortioxetine (9), Paroxetine (10) and Sertraline (11).

#### No. 14

### The Changes in Functional Connectivity Between Default Mode Network and Attention Network in Response to the Changes of Aerobic Exercise Intensity.

Poster Presenter: So Yeon Lee, M.D.

Lead Author: Doug Hyun Han, M.D., Ph.D.

Co-Authors: Young Woo Ko, Hee Jin Kim, M.D., Sun Mi Kim, M.D., Ph.D.

#### SUMMARY:

**Introduction** Aerobic exercises were thought to enhance cognitive functions via increase the availability of oxygen consumption in brain. The breath-by-breath O<sub>2</sub>-CO<sub>2</sub> exchange ratio was associated with the functional connectivity within default mode network(DMN). However, the effects of aerobic exercise on cognition, performance and brain activity have not been obtained. We assessed the changes in visuo-spatial working memory and in brain functional connectivity in response to the changes of aerobic exercise intensity. **Methods** 15 healthy men(20-24 years old) participated in current study. Participants performed pre-exercise rs-fMRI. Computerized mental rotation test and rs-fMRI were performed after moderate intensity exercise and after high intensity exercise. The computerized mental rotation test was run to assess visual-spatial abilities. Faster reaction times and more correct responses could represent better visuospatial abilities. Total of 8 regions in two brain networks (4 DMN: medial prefrontal cortex(MPFC), right/left angular gyrus(ANG), posterior cingulate cortex(PCC); 4 dorsal attention network(ATN): right/left frontal eye field(FEF) right/left inferior parietal sulcus(IPS)) were extracted from atlas of the brain. The changes in reaction time and correction rate of mental rotation test and the changes in the functional connectivity(FC) between regions of interest (ROIs) from baseline, moderate intensity, and high intensity was analyzed using repeated measure ANOVA. **Results** From baseline to moderate intensity, the correction rate has been increased( $z=2.50$ ,  $p<0.01$ ). From moderate to high intensity, the reaction time has been significantly increased ( $z=3.41$ ,  $p<0.01$ ) and the correction rate has been decreased ( $z=3.41$ ,  $p<0.01$ ). In the analysis of DMN, the FC from PCC to

MPFC ( $F=5.69$ ,  $p<0.01$ ) and the FC from PCC to Rt ANG ( $F=7.39$ ,  $p<0.01$ ) have been increased from baseline to high intensity. In the analysis of DMN and ATN, the FC from PCC to MPFC has been increased from baseline to high intensity ( $F=11.5$ ,  $p<0.01$ ). The FC from PCC to Lt FEF has been decreased from baseline to moderate intensity ( $z=3.01$ ,  $p<0.01$ ) but has been increased from moderate to high intensity ( $z=2.56$ ,  $p=0.01$ ). From moderate to high exercise intensity, the changes in correction rate was negatively correlated with the changes in the FC from PCC to MPFC ( $r= -0.816$ ,  $p<0.0001$ ). From moderate to high exercise intensity, the changes in reaction time was correlated with the changes in the FC from PCC to MPFC ( $r= 0.818$ ,  $p<0.0001$ ).

**Discussion** The FC within DMN at high intensity exercise was highest, and the FC within ATN at moderate intensity exercise was highest. The FC between DMN and ATN at moderate intensity exercise was lowest. The modulation of respiration was thought to be associated with DMN. For compensation of respiration, relatively low O<sub>2</sub> may be applied to ATN at high intensity exercise.

#### No. 15

### Assessing Mobile User Needs for Teens With Socially Complex Needs From the West and South Sides of Chicago

Poster Presenter: Jim Zhang

Co-Authors: Karen Reyes, Niranjana Karnik, Colleen Stiles-Shields, Nia Lennan

#### SUMMARY:

**Introduction:** Teens with socially complex needs (i.e., facing overlapping adversities; Bounds et. al, 2020) face increased risk for poor behavioral health outcomes (Braveman & Barclay, 2009). It is poorly understood how teens with socially complex needs use their phones in everyday life. The purpose of this project was to assess specific needs of teens from the West and South Side communities of Chicago, who may benefit from access to mHealth tools to improve behavioral health targets. **Methods:** Twenty-seven participants (17 teens, aged 14-17, and 10 caregivers) were recruited through Rush University Medical Center-affiliated outpatient sites to participate in remote focus groups. Focus groups followed a semi-structured interview format to

assess behavioral health needs, usage practices and acceptability of mHealth tools, and needed cultural adaptations to improve engagement with these tools. Fifteen interviews were conducted (5 teen one-on-one interviews, 5 teen focus groups, 2 caregiver one-on-one interviews, 3 caregiver focus groups). Using thematic analysis (Lochmiller, 2021; Braun et. al, 2019), transcripts of each interview were double coded to generate datasets highlighting smartphone use, barriers to treatment, check-ins on mental health, and use of smartphones for health. Coded extracts were separated into two datasets for teens and caregivers. Results: Data analysis and development of emergent themes are ongoing. Among teens, coded extracts were sorted into categories describing smartphone use, behavioral health impacts, support of smartphone use for health, barriers to treatment, check-ins on mental health, and interest in future tech studies. Among caregivers, coded extracts were sorted into categories describing concerns for smartphone use among their teens, community concerns, support of smartphone use for health, barriers to treatment, check-ins on mental health, and interest in future tech studies. These categories are being sorted into emerging themes that will define perspectives on smartphones and health among teens and caregivers. Emerging themes in progress for both cohorts include use of smartphones, ubiquity of smartphones, effects of smartphones, awareness of health and wellness, barriers to treatment, and use of technology during COVID. Conclusions: These evaluations offer valuable insights to how teens with socially complex needs use their phones and potential vulnerabilities in reaching teens via this medium in their communities. Specifically, teens often use their phones for social media, entertainment, and health; whereas caregivers have the following concerns for their children's use of mobile phones: social media activity, frequency of use, and distractibility from everyday activities. Further assessment, including the utilization of user-centered design practices, is needed to best adapt mobile intervention tools to meet the specific needs of teens from the West and South Side Communities of Chicago.

## **No. 16**

### **Disparities in Technological Access and Its Effect on Adolescent Mental Health in the COVID-Era**

*Poster Presenter: Anna J. Sheen*

*Co-Authors: Phuong B. Vo, Gaurav Gandotra, M.D.*

#### **SUMMARY:**

KC is a 18 year old female with no past psychiatric history who presented to the emergency department for treatment after a suicide attempt. KC had purposefully ingested a handful of cyclobenzaprine tablets she was prescribed several years ago for a sports related injury. This occurred immediately after an intense verbal argument with her parents in which they limited her smartphone access, creating a "heat of the moment that [she] just could not take any longer". For a year prior to admission, she had been attending her senior year of high school remotely in the form of Zoom or other video-based communication. Over those months, she began experiencing increasing feelings of isolation, loneliness, lack of purpose, and anxiety. She also reported worsening relationships with her mother and stepfather, who she lived with during this time, that were characterized by increased verbal arguments and feelings of resentment. Of note, KC lived in a low-income household under significant financial difficulty after her mother contracted COVID and was no longer able to generate income. She described often arguing with family members over the use of the home WiFi network, which could not sustain more than one user at a time, and having to share her smartphone with her stepfather. As a result, her academic performance declined and social interactions with peers were reduced, causing her significant distress and anxiety that contributed significantly to her suicidality. The COVID-19 pandemic has widened and exposed social inequality in virtually every single country in the world. Social isolation, and an associated increased reliance on technology, has been a significant stressor on children and adolescents in particular. This population has experienced an especially dramatic change in lifestyle from highly socialized classroom environments to at-home, video communication, occurring during a vulnerable period of development. While this increased screen-time has the potential to cause harm, technology has also

been shown to play a highly beneficial role in maintaining social connectivity and emotional enrichment during quarantine. For adolescents with low-income resources and limited technological access, they become especially vulnerable to social isolation, impaired learning and academic performance, and increased household pressure. It is imperative that providers be aware of these disparities in order to better understand and treat their patients.

#### **No. 17**

##### **Case Report of K2 Induced Agitation Resistant to Medical Management**

*Poster Presenter: Madison Collins*

*Co-Author: Daniel Thomas McGovern, M.D.*

#### **SUMMARY:**

**Introduction:** SC's are full agonists of the CBR1 receptor (a G-coupled protein receptor) and are known to exhibit much higher potency and binding affinities than does THC which is a partial agonist. SC's can be easily changed by simple chemical alteration allowing SC's to evade governmental regulation and detection on routine utox samples collected in emergency rooms. There have been no clinically controlled studies on the effects of SC's on humans up to this date, though an observational study in 2016 found SC's users to have longer hospital stays with higher doses of antipsychotics necessary to control psychotic symptoms when compared to cannabis users. The adverse effects of SC's have been documented, but include an array of symptoms, as the nature of SC's production allows for the resulting products to vary in composition and concentration within one batch. A large systematic review of adverse events from SC's in 2016 found that the most common presentations include: tachycardia, agitation, and nausea. Agitation is often successfully managed with antipsychotic and benzodiazepine administration resulting in sedation, allowing the substance to metabolize. However, consistent treatment algorithms for K2 intoxication have not been established due to varying presentation and difficulty of detection. **Case:** A 52 year old African American female was presented for involuntary inpatient admission after being brought in by EMS secondary to 5 days of agitated behavior

at her residence and disclosure of K2 use to her case worker. Lab work was obtained in the emergency room prior to admission which did not show any abnormalities and was negative for illicit substances on urine toxicology. Vitals upon admission were within normal limits. On presentation patient exhibited severe agitation demonstrated by screaming, physical threats towards staff, and disorganized, loud speech. Patient was unable to be verbally redirected and required 4 point restraint in the emergency room and administration of zyprexa 20mg and Benadryl 50mg IM with little effect. Patient then received 2mg of klonopin PO and was able to sleep for only 2 hours after restraints were removed. Patient was admitted to the inpatient unit and for the first two days required 12 separate PRNs for agitated behavior. During the entire 14 days admission the patient received 18 separate PRNs with little effect. She slept a total of 31 hours (2 days not documented) with no night exceeding 4 hours of sleep. She was placed in seclusion two times and was on 1:1 on several instances due to targeting staff members and throwing object on the unit. The last two days of admission the patient did not receive PRNs and was discharged home on olanzapine 10mg BID, lithium 600mg BID and depakote 500mg BID. **Discussion:** There are no standardized algorithms designed to treat K2 intoxication. Treatment is aimed at symptom alleviation. More cases are needed to catalog unique presentations and effective pharmacology.

#### **No. 18**

##### **One Size Doesn't Fit All: Implementation Considerations for Family-Based Telehealth Interventions for Families Impacted by the Child Welfare System**

*Poster Presenter: Hannah Pei Leo, M.D.*

*Co-Authors: Christopher Rodriguez, M.S., Marina Tolou-Shams, Ph.D., Johanna Folk, Ph.D.*

#### **SUMMARY:**

**Background:** It is estimated over one third of all children, and over half of Black children, in the US will experience a child protective services (CPS) investigation before they turn 18 years old.<sup>1</sup> While nearly half of youth impacted by CPS investigations exhibit clinically significant emotional and behavioral

challenges, one study found only 11.7% of those youth connected with mental health services within one year of a CPS investigation. Access is especially limited for Black and Hispanic youth.<sup>2 3</sup> Strengthening interpersonal relationships between youth and caregivers impacted by the child welfare system (CWS) can bolster youth social competence and behavioral adjustment, reduce caregiver stress and support family reunification.<sup>4 5</sup> However, youth are often placed far from their home (e.g., in San Francisco, CA 68% are placed out-of-county).<sup>6</sup> While distance makes in-person family-based mental health interventions challenging, delivering therapeutic interventions via telehealth may be a way to circumvent this barrier.<sup>7</sup> Aim: The aim of this qualitative study was to understand system feasibility, acceptability, and other considerations related to telehealth delivery of a family-based affect management intervention for CWS youth and families.<sup>8</sup> Methods: Three focus groups were conducted with stakeholders at CPS and a short-term residential treatment program. Focus groups were transcribed, double coded, and discrepancies discussed and resolved. Constant comparative analysis and inductive thematic analysis were utilized to highlight stakeholders' perspectives on factors that influence the success of family-based behavioral health interventions and suggestions for telehealth implementation. Results: Most system stakeholders (N=19, 6-7/group) were female (68%), white (53%), and social workers (42%). Other stakeholders included group home staff, substance use or mental health coordinators, case managers, and supervisors. On average stakeholders worked in CWS for 16.6 (SD=8.3) years. Stakeholders identified multi-level factors impacting family-based intervention delivery including structural (e.g., limited access to specialty care, mismatch in language and demographic needs, and policies that assert services follow the placement rather than the youth), individual (e.g., motivation and ability to engage by youth and parents), and factors at the interface of the individual and system (e.g., logistics, such as time and transportation, and trust and collaboration). Telehealth implementation suggestions included considerations about attention span, targeted age, contingency planning, language and technology literacy, resource availability, confidentiality, and use of incentives. Conclusions:

Based on firsthand experience of stakeholders, we must advocate for policies and leverage telehealth interventions that are patient-centered over placement-centered, provide resources to limit barriers and bolster motivation, and structure teams to promote collaboration.

#### **No. 19**

#### **Time Consistent Oculogyric Crisis in a 13-Year-Old Female on Risperidone With COVID-19 Infection**

*Poster Presenter: Courtney Anne Heim, D.O.*

*Lead Author: Shane Burke, M.D.*

#### **SUMMARY:**

A is a 13 year-old female with a history of Trisomy 21 and Grave's Disease, hospitalized for COVID-19 associated pneumonia. She was initiated on risperidone about 3-4 months prior to admission for psychotic symptoms. The dose was titrated to 1 mg BID and had been the stable dosing for the two months prior to presentation. Adherence was confirmed by parents. During hospitalization, she was noted to stare at the ceiling, concerning primary team for hallucinations and prompting psychiatric consultation. "Staring spells" occurred repeatedly at the same time interval for three days within 6 hours of morning dosing. On assessment, she displayed symptoms consistent with an oculogyric crisis, presumed secondary to risperidone. She had involuntary conjugate deviation (upward and to the left) of the eyes, retrocollis, tongue protrusion, mild drooling, and decreased eye blinking which were alleviated after treatment with diphenhydramine 50 mg IM. The risperidone dose was decreased to 0.5 mg BID and she was started on scheduled benzotropine 0.5 mg BID without reoccurrence of symptoms. Acute infection has previously been described to inhibit cytochrome P450 and subsequent medication adverse events or toxicity. For this patient, it was theorized that the COVID-19 infection was a contributing mechanism leading to the ocular dystonia. To the best of our knowledge this is the first such case described in children. It elucidates the importance of medical providers' ability to recognize and manage acute dystonia in children with neurodevelopmental disorders who have an increased sensitivity to antipsychotics



especially as COVID-19 related hospitalizations are increasing among this age group.

## No. 20

### Clinical and Demographic Factors Related to Mental Health of Undocumented Immigrants Receiving Health Care at a Student-Run Free Clinic in East Harlem

Poster Presenter: Elizabeth B. Magill, B.A.

Co-Authors: Alexandra Morgan Saali, B.A., Samuel Powell, B.S., Craig Katz, M.D.

#### SUMMARY:

**Background** The East Harlem Health Outreach Partnership (EHHOP) is a student-run free clinic (SRFC) affiliated with the Icahn School of Medicine at Mount Sinai in New York, NY that provides free primary care to East Harlem adults who are unable to obtain health insurance, most often due to unauthorized citizenship status. This analysis characterizes the clinical population served in EHHOP's Mental Health Clinic and examines social and demographic factors for association with anxiety and depression symptoms among EHHOP patients.

**Methods** Age, race/ethnicity, and gender were identified from patients' electronic medical records. Psychiatric diagnoses were determined from provider notes. Fisher exact tests assessed bi-variate associations between gender and psychiatric disorder diagnosis upon intake evaluation.

Multivariable linear regression models explored factors associated with the severity of intake depression and anxiety symptoms, longitudinal change in patients' symptoms over time, and likelihood of patients achieving clinically significant symptom improvements, as measured by PHQ-9 and GAD-7. All subsets regression was used for variable-selection, and  $k$ -fold cross-validation<sup><w:sd</sup>

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of a highly disadvantaged population—undocumented immigrants—treated in a psychiatric SRFC. Our findings may inform the design of future SRFCs and development of tailored programs to address determinants of mental health within this population.

#### **No. 21**

##### **Food for Thought: A Virtual Nutrition Outreach Program for People With Serious Mental Illness**

*Poster Presenter: Pooja Dutta*

*Lead Author: Xiaoduo Fan, M.D.*

*Co-Authors: Marko Stojcevski, Amy Cheung, Yumi Kovic, M.D., M.P.H.*

#### **SUMMARY:**

**Background:** People living with serious mental illness (SMI), such as schizophrenia, bipolar disorder and major depressive disorder, have a markedly reduced life expectancy of 10 to 25 years [1,2]. Cardiovascular disease is a major contributor for these lost years [3], with unhealthy diet as a key modifiable risk factor and area for intervention [4,5]. The COVID-19 pandemic further challenged the maintenance of healthy eating behaviors due to increased isolation and limited access to healthy food choices. During this time, we piloted a virtual nutrition outreach program for people with SMI that would equip them with practical cooking skills and nutrition knowledge in a supportive social setting. The objectives of this program were to 1) explore the feasibility of a virtual nutrition intervention program in the SMI population by assessing participant feedback, accrual, and retention, 2) further our understanding of participants' knowledge, attitudes and behaviors regarding food and cooking, and 3) evaluate and integrate qualitative feedback for future programs. **Methods:** Adult participants with SMI were recruited through a local mental health organization. A focus group session was conducted to assess participant food behaviors, knowledge and attitudes about nutrition, and motivation for healthy eating. This was followed by a series of three modules with each module consisting of an education session paired with a hands-on cooking session. Participants joined sessions virtually from home, using their own kitchen and cooking supplies. The program

concluded with a final focus group. Brief surveys were conducted during focus group sessions and at the end of each module. **Results:** Twelve members were enrolled in the program. At the conclusion of the program, members reported an average of 4.4 out of 5 on how well received the program was. There was an average score of 3.4 on how likely members were to modify their lifestyle and practice healthier eating after participating in the program. They also reported an average of 4.4 on how likely they were to participate in this program again in the future and 86.0% stated they would recommend the program. In assessing virtual program design, 71.4% of members preferred a hybrid format (a combination of virtual and in-person sessions) in the future, while 14.3% preferred a completely virtual format, and 14.3% preferred a completely in-person format. Most members preferred small groups, with 44.0% preferring groups of 4-6 people. **Conclusions:** Overall, the virtual program format was well received by participants. Virtual hands-on cooking sessions allowed participants to practice healthy food choices and cooking skills in their home environment. Future steps include refining the program curriculum and disseminating the program to additional mental health organizations in Central Massachusetts. A larger sample size in our future programs will allow further data collection and assessment of program efficacy.

#### **No. 22**

##### **Hepatitis C in the Setting of Opioid Use Disorder: A Case Report Outlining Considerations of Care for a Vulnerable Population**

*Poster Presenter: Nikith Shekar*

*Co-Authors: Kishan B. Shah, M.D., Shivam Patel, Vishal Dhruva*

#### **SUMMARY:**

**Case:** Ms. C is a 39-year-old female with a history of untreated HBV/HCV infection, bipolar disorder, IVDU with heroin, cocaine use disorder, and tobacco use disorder who became incarcerated 3 days ago and presented to the ED for a syncopal episode secondary to rectal bleeding. Initial labs were significant for leukocytosis of 13.2, Hgb 12.7, plt 362, AST 4,749, ALT 4,698, ALP 296, TBili 3.3, INR 2.65, and lactic acid 4.4. Patient was transferred to the

Hepatology Unit for evaluation of suspected viral and ischemic hepatitis. The Addiction Medicine Service was consulted for management of opiate withdrawal, given patient's substance use history. Patient was seen at bedside, appeared distressed, reported withdrawal symptoms including chills, muscle aches, diarrhea, and anxiety. Had a COWS score of 10. In consultation with pharmacy, patient was given one time dose of 10mg oral methadone for opioid withdrawal symptoms, despite prolonged QTc and acute liver injury. Literature Review: Medical complications and psychiatric comorbidities are very common among patients with opioid use disorder. Medical complications that should be routinely evaluated for when seeing patients with opioid use disorder include infection, Hepatitis A, B, and C, sexually transmitted diseases, tuberculosis, HIV, and poorly managed chronic conditions, such as hypertension and diabetes.<sup>(1)</sup> Hepatitis B and hepatitis C are the most common viral hepatitis infections that can be transmitted through behaviors such as sharing needles during intravenous opioid use. Globally, an estimated 71 million people are living with chronic hepatitis C virus (HCV) infection, with nearly 2 million new infections annually. Persons who inject illicit substances are the group most severely affected by the HCV epidemic in high-income countries, but the least likely to receive treatment.<sup>(2)</sup> Discussion: Treating hepatitis C in opioid-dependent patients presents special challenges to the health care team, such as having to factor in social determinants of health, comorbid psychiatric disorders, previously poor relationships with healthcare providers, the providers own lack of training and inherent prejudices towards substance use, and working within a healthcare system that may not provide essential resources for this subset patient population. A psychiatrist can play an integral role in improving patient adherence to treatment by talking the patient through the treatment process to alleviate fears, assessing for mental health conditions prior to onset of treatment, developing a harm reduction plan, and coordinating with a support system.<sup>(2)</sup> Conversely, starting patients with opioid use disorder on MAT can serve as an effective co-prevention method for HCV infection.<sup>(3)</sup>

## No. 23

### Nutritional Supplementation in Schizophrenia: A Literature Review

*Poster Presenter: Lucinda Dass*

*Co-Authors: Naziya Hassan, M.D., Panagiota Korenis, M.D., Khai Tran, M.D.*

#### SUMMARY:

Background: Schizophrenia is a chronic and severe mental health disorder, affecting 20 million people worldwide. Although antipsychotics are very effective in treating acute psychosis and preventing relapse, there is less of a therapeutic effect for addressing the cognitive or negative symptoms (NS) without the need for combination symptoms with antidepressants; only some second-generation antipsychotics have been proven to alleviate NS. 2 Diet is a social determinant of health and is among one of the modifiable prognostic factors for schizophrenics. Previous research in nutritional psychiatry has shown that a balanced and healthy diet in this patient population has the potential to improve cognition, decrease positive and negative symptoms of the disease, and improve the overall metabolic profile.<sup>1,3</sup> Methods: PubMed was used to search for articles within the past 10 years using the "all fields" and "free full text" filters applied with the search algorithm ["schizophrenia" AND "nutrition"]. Inclusion criteria: patient population of clinically diagnosed schizophrenia/schizoaffective disorder or active psychosis, studies that focused on specific nutritional supplements and contained quantitative data in relation to symptom severity or metabolic health. Exclusion criteria were articles that focused on nutritional education, supplements that are not readily available to the general public, other lifestyle modifications, special diets, and combination therapies that included behavior changes (concurrent medication treatments were allowed). A more focused search was then conducted by combining "schizophrenia" with each of the specific therapies in order to maximize results. Results: A total of 29 articles were initially generated, of which only 5 fit the search criteria. Each specific search produced more articles, and after carefully reading each, a total of 14 articles was determined to fit the criteria. All, but two articles included PANSS score assessment. The studies on vitamin D, cycloserine, and omega 3's produced conflicting results.

Sarcosine supplementation was the only nutrient to demonstrate favorable outcomes for all three studies. The reliability of the results of both sodium benzoate and konjac powder were limited since only one article for each was generated; no difference in outcomes was noted for sodium benzoate and konjac powder demonstrated an improved metabolic profile. Conclusions: Supplementation of vitamin D, Konjac powder, D-cycloserine, sarcosine and omega 3's have the potential to improve symptomatology and enhance the quality of life of schizophrenics. D-serine and sodium benzoate have not been shown to be effective adjunctive treatments in schizophrenics. However, due to a limited number of studies for each, more research is indicated to truly determine the public health significance. Keywords: schizophrenia, nutrition, supplements, omega 3's, iron, vitamin D, vitamin C, sarcosine, D-serine, sodium benzoate

#### No. 24

##### **The prevalence and management of mental illness among unsheltered individuals in Miami**

*Poster Presenter: Ainhua Norindr, M.S., B.A.*

*Co-Authors: Erin O'Keefe, B.S., Christine Rafie, B.A., B.S., Mousa Botros, M.D., Dan Bergholz, B.A.*

##### **SUMMARY:**

**Background:** The mental health-related needs of homeless individuals are significantly unmet by traditional entry points to care. Numerous barriers prevent this underserved community from accessing needed medical care. Miami Street Medicine (MSM) serves unsheltered individuals with medical outreach and case management on their own terms and in their own space through weekly "street runs" in the community. One of MSM's project goals is to develop trust and gain an understanding of mental health-related needs, as little is known about the ubiquity of mental illness in the homeless community of Miami. This study aims to measure the prevalence of mental health disorders and understand the barriers that prevent access to care. With this knowledge, we hope to create a framework for identifying and treating these individuals on the street and better linking those with severe mental illness to existing systems of care. **Methods:** Miami Street Medicine aims to

address the needs of our unsheltered population through weekly medical outreach and case management. We performed a retrospective chart review of REDCap electronic medical record system entries of 83 medical patient encounters in 2021. We identified individuals with prior mental health diagnoses, past treatment and hospitalizations, and current access to medication and providers. **Results:** Out of 83 patients seen in 2021, 15 (18%, n=83) were previously diagnosed with a severe mental illness. Out of these 15, the most prevalent diagnoses were schizophrenia (7), depression (6), bipolar disorder (3), and anxiety (3) with some occurring concurrently. 1 patient was actively suicidal upon encounter and was accompanied to the ED for acute treatment. **Discussion:** This study elucidates the complex interaction between homelessness and mental health disorders. Assessing the mental health needs of homeless individuals of Miami is imperative to providing appropriate care to assist them in transitioning to safe living conditions. It is important not only to evaluate the prevalence of disease, but also to understand the perspectives and challenges those individuals have regarding prioritizing their mental health. It is essential to analyze these factors to come up with various innovative and interdisciplinary systems to address mental health needs through street medicine. The results may inform our ability to better tailor psychiatric street medicine for the downtown Miami homeless population to enhance their quality of life.

#### No. 25

##### **The Influence of Telepsychiatry on Patient's Adherence to Follow-Up Appointments**

*Poster Presenter: Negar Haghhighimehmandari, M.D.*

*Co-Author: Michael DeDonno*

##### **SUMMARY:**

**Background:** Failure to return for follow-up appointments in mental health settings is frequently encountered, but an understudied phenomenon. Clinics can introduce measures such as pre-appointment phone or text reminders that may decrease no-show rates. However, in-person clinic visits still pose obstacles for patients. (Morris, 2020)The objective of this study was to determine whether replacing in-person visits with

telepsychiatry appointments would improve follow-up rates. **Design:** In the midst of the 2020-2021 COVID-19 pandemic our outpatient clinic sites began offering virtual visits. When patients called the clinic they were offered both in-person and/or virtual visits. For the present study, patient's decision of in-person, or virtual was documented. In addition, patient demographics and diagnoses were documented in the study database. Patients were followed to the next appointment, usually scheduled within one month after the first visit. Drop-out rates were documented and compared between these two groups. A binomial logistic regression was performed to ascertain the effects of age, sex, psychiatric diagnosis, and type of initial session on the likelihood that participants would follow-up. **Results:** Of a total of 286 patients studied 22.7% (65) chose in person and 77.3 % (221) chose telemedicine for their initial visit. Sex and age distribution were not significantly different between groups; mean age (38.29y in-person vs 35.6y telemedicine). All patients received reminders prior to their follow-up visit. The logistic regression model was statistically significant,  $\chi^2(3) = 8.022, p = .046$ . The model explained 4.0% (Nagelkerke  $R^2$ ) of the variance in follow-up. Of the four predictor variables, only one was statistically significant. Only session type was associated with difference in follow-up with initial session being telemedicine having 2.177 times higher odds to attend the follow-up session. Further, categorizing patients based on DSM 5 groups of diagnosis including mood disorders, anxiety disorders, personality disorder, schizophrenia spectrum disorder, substance use disorder and other, did not significantly associate with follow-up. **Conclusion:** Nonattendance rates vary but are reported between 12% and 60% in outpatient psychiatric clinics (Long et al., 2016). Estimated drop-out rates in outpatient psychiatric services vary considerably as well, ranging from 20 to 60%. (Henzen et al., 2016). Most importantly, the nature of the outpatient clinical setting and a lower level of patient satisfaction have been identified as predictive factors for failure to follow-up. Our study suggests that telepsychiatry reduced dropout rates significantly. Although previously younger age has been shown to be a risk factor for drop outs, in our study it was not associated with failure to follow-up. Both males and females had greater rate of follow-up in

telemedicine group. Telepsychiatry has shown to decrease drop-out rates regardless of patient's diagnosis.

## No. 26

### **Understanding Zentangle: Mindful-Based Art Therapy as a Potential Adjunctive Treatment in Patients With Serious Mental Illness**

*Poster Presenter: Marko Stojcevski*

*Co-Author: Amy Cheung*

#### **SUMMARY:**

**Background:** People living with serious mental illness (SMI), such as schizophrenia, major depressive disorder, and bipolar disorder, face considerable health disparities. Approximately 50 percent of individuals with SMI have medical comorbidities which contribute to mortality rates that are two to three times higher than that of the general population [1,2]. Inconsistent pharmacological efficacy in treating individuals with SMI has led us to explore novel adjunctive therapies with more holistic approaches [3]. Zentangle is a form of guided mindful-based group art therapy. The sessions were virtual, consisting of participants spontaneously creating images and patterns on a paper tile to channel creativity through drawing. The objectives of the current study were to 1) evaluate Zentangle as an adjunctive treatment in patients with serious mental illness, 2) understand its potential in improving clinical symptoms in this patient population, and 3) assess its impact on overall quality of life. **Methods:** Adults with SMI were recruited by word of mouth or physician referral. The Zentangle program was an eight-week virtual group intervention that included a qualitative group interview and quantitative surveys. The questionnaires (BPRS, MAAS, PSS, and Q-LES-Q-SF) were administered at three time points during the study and pre-post differences were compared using t-test analysis at week 1 (pre-intervention), week 10 (post-intervention), and week 14 (4-week post-intervention follow up). A midpoint survey was administered to measure satisfaction with the Zentangle program, changes in daily life, and self-assessed degree of changes in creative ability. Participants who were interested in participating in an interview with research staff to reflect on their

experiences attended a semi-structured qualitative group interview 1-week post intervention. The interview transcript was evaluated using a thematic analysis approach. **Results:** 11 participants were initially enrolled and 6 of them completed the program. A significant reduction in the total BPRS score was observed ( $42 \pm 9.1$  vs  $34 \pm 8.9$ ,  $p = 0.0189$ ; mean  $\pm$  SD, pre-intervention vs 4-week post-intervention follow up). A modest but significant increase in MAAS score was also documented ( $3.5 \pm 0.4$  vs  $4.2 \pm 0.7$ ,  $p = 0.0427$ ; mean  $\pm$  SD, post-intervention vs 4-week post-intervention follow up). Thematic analysis resulted in the generation of four themes: Zentangle during the COVID-19 pandemic, importance of feasibility, the value of self-appreciation, and Unique approach to mindfulness. **Conclusion:** Our study offers great insight for demonstrating the feasibility and efficacy of the Zentangle method and is a first necessary step in promoting Zentangle as an adjunct therapy for people with SMI. Future directions will focus on increasing the number of participants in the Zentangle program and observing long-term effects of learning the Zentangle method as part of improving psychiatric symptoms and patient outcomes.

#### No. 27

##### **Nature Therapy for ADHD: A Literature Review on Current Research**

*Poster Presenter: Yonatan Kaplan, M.D.*

##### **SUMMARY:**

**Objectives:** Review recent literature examining effect of nature therapy on ADHD symptoms in children. Identify common findings across studies and contrast discrepancies. Define specific environmental factors and experimental interventions that are encompassed by nature therapy. **Methods:** A search was conducted on the databases Google Scholar and Pubmed using the keywords “ADHD”, “Child”, “adolescent”, “nature therapy”, “ecotherapy”, and “green space” for the last 5 years. 155 results were returned and screened for title and abstract by two reviewers for English language and study content examining effect of nature exposure on ADHD symptoms in children. A total of 11 papers were reviewed. **Results:** Of the

eleven studies included, 10 found that the examined contact with nature was associated with a reduction in ADHD symptoms. The most consistent reductions of symptoms across studies were in the attention realm while impulsivity and behavioral regulation were improved in two of the studies examined but were not statistically significant in two others. Outdoor classroom interventions had additional outcomes of improving subject resiliency, self-esteem, and affect. Out of 3 included studies examining the correlation between green space and incidence of ADHD, 2 studies found that populations with more available green space had a lower incidence of children with ADHD. **Conclusions:** Nature exposure is associated with improved attentional outcomes in children with ADHD. Nature exposure can be applied to children using outdoor classrooms. More research is needed to determine whether behavioral regulation and impulsivity can be improved by nature therapy. Future studies can also examine the effect duration of nature therapies on attention restoration, determine the optimal frequency of nature interventions for children, and repeat existing studies with larger groups for increased experimental power.

#### No. 28

##### **Altruism in the Human Animal: Different Conceptual Frameworks and Models of Cross-Diagnostic Constructs**

*Poster Presenter: Shruti Pradeep Mutalik, M.D.*

*Lead Author: Hillary Duenas*

*Co-Author: Jacob Appel*

##### **SUMMARY:**

Transplant psychiatrists are often called upon to evaluate “altruistic” organ donor candidates who present with the intent to donate organs to strangers ( non directed), or to persons with little close emotional connection ( directed but not close relatives), the cited motivation being to help those in need. Here we will use a case example to examine distinct conceptual frameworks convergently deemed “altruism”, all of which could be incorporated into an integrated biopsychosocial model of altruistic behavior. Specifically, we describe the case of a 30 year old male who decided to donate after listening to a podcast episode. He

stated that if there are people who have no functioning kidney, and only one kidney is required for life, then having two functioning kidneys is fundamentally unjust. From an evolutionary perspective, altruism within the animal kingdom is often explained in terms of Kin Selection and Reciprocal Altruism. In terms of reproductive fitness, altruism at the level of the individual or a group can be accounted for as “selfishness” at the level of genes. From a neurobiological standpoint, altruistic behaviors have been associated with greater activity within specific limbic and cortical regions. Functional imaging comparing the brains of extraordinary altruists to those of psychopaths and normal controls demonstrated significant differences in amygdala reactivity across those populations. Through a psychodynamic lens, altruism has been categorized as “Generative Altruism” characterized by a motivation to help others without the expectation of reward, “Pseudo-Altruism”, in which altruism serves as a defense for something else, such as masochism, “Conflicted Altruism”, in which the desire to help others conflicts with the desire to protect oneself, “Psychotic Altruism”, which is altruism motivated by psychotic thought processes, “Proto-Altruism” which encompasses parental nurturing behavior. Anna Freud (1946) described “altruistic surrender” in inhibited individuals neurotically driven to do good for others. In Moral Philosophy, altruism is the moral obligation to help others. We examine the social movement of “Effective Altruism”, disseminated by Peter Singer, in which the focus is on the use of reasoning and strategy to find the most effective ways to help others. It was listening to a podcast discussing effective altruism that inspired our candidate to donate his kidney. Game Theory has been used to model social cooperation, through models such as “Prisoner’s Dilemma”, which have suggested that “altruism” is sometimes an optimised “selfish” strategy. Using a case example, we propose that these frameworks can be integrated into a biopsychosocial model of altruism that helps conceptualize and frame the phenomenology of altruistic behavior, beyond diagnostic psychiatric constructs.

## No. 29

### Case Report and Literature Review of Olanzapine-Induced Thrombocytopenia

Poster Presenter: *Melissa Free, M.D.*

Co-Authors: *Paul Sungbae Park, M.D., Molly Hartley, Sanjay Yadav, M.D.*

#### SUMMARY:

This is the case of a 60-year old female with a history of bipolar I disorder, L MCA stroke (9/2019), parkinsonism, and hypothyroidism, who presented to the emergency room after a fall. Psychiatry was initially consulted for a pre-admission screening and resident evaluation for her placement into a skilled nursing facility. Five days after the initial consult, psychiatry was asked to follow up for medication recommendations in light of the patient's thrombocytopenia (52 K/uL). From our review of available records, the patient was diagnosed with bipolar disorder more than 20 years ago, and she has been on Valproic Acid (VPA) 1,000 mg twice daily for two decades. At the time of her stroke in September of 2019, the patient's platelet count ranged 180-250 K/uL. Olanzapine 10mg (antipsychotic treatment as a mood stabilizer) was started 7/2020 after a manic episode, and the dosage increase to 20 mg in 2/2021 appears to be temporally correlating with her decreasing platelet counts. Four days after the discontinuation of her olanzapine, we saw a 25-point increase in her platelet count. There have been many reports of VPA's association with bone marrow suppression and auto-immunogenicity [1,2], but the case patient has been stable on the same dose of VPA for many years. Her serum VPA level was within the therapeutic range, and the hematological findings pointed less towards bone marrow suppression: the patient had compensated anemia of chronic disease without any significant blood cell dyscrasias. Considering the temporal relationship and the rebound in her platelets after the discontinuation of olanzapine, the patient's thrombocytopenia was likely olanzapine-induced, and antipsychotic-induced thrombocytopenia has been documented in a number of case reports [3]. The aim of this poster is to explore the multiple etiologies of thrombocytopenia in our case patient by considering the timeline, hematological findings, and literature review. Additionally, this poster

reviews the current models for drug-induced thrombocytopenia and its clinical limitations [4].

### **No. 30**

#### **Management of Neuro- Psychiatric Disturbances in Huntington's Disease**

*Poster Presenter: Yarden Segal*

#### **SUMMARY:**

**Introduction:**Huntington's disease (HD) is an autosomal dominant, neurodegenerative condition with a prevalence of 10.6-13.7 per 100000, caused by the trinucleotide CAG (cytosine, adenine, guanine) repeat expansion in the HTT gene [1, 5-6]. HD is characterized by a range of motor, cognitive, and psychiatric symptoms, the latter of which usually manifest prior to the onset of motor or cognitive disturbances [2-4]. Psychiatric symptoms in HD substantially impact daily functioning leading to significant distress in the individual and family members as well as necessitate hospitalization [2]. Changes in personality are most common, followed by depression, which has a lifetime prevalence of around 39% among HD patients [7]. Psychosis is estimated to be prevalent in 1-25% of cases with a higher risk in those who develop early-onset HD [8,9].  
**Case report:**The patient is a 54-year-old man with an unclear psychiatric history and reported past medical history of Huntington's disease, diagnosed one month ago. He was brought to the Emergency Department (ED) due to agitation and disorganized behavior at home. He was admitted to inpatient psychiatry for further management. Collateral was collected from his sister who confirmed his recent Huntington's diagnosis as well as family history in two male relatives. This patient had had no past psychiatric history as per collateral information. Over the last few months, he began exhibiting worsening of mood and aggression. During his admission he was noted to be disorganized, grandiose, reporting he is an athlete and famous writer, and endorsing auditory hallucinations. He also had neurocognitive deficits with MOCA 18/30. With the initiation of tetrabenazine and risperidone his psychiatric symptoms improved, and he was able to be discharged to a long-term care facility.  
**Discussion:**HD is a condition which causes severe neuronal dysfunction and death. The onset of the condition is

greatly tied to its penetrance. The disease is partially penetrant between 36 and 39 CAG repeats with a full penetrance at 40 or more [5,10]. Such penetrance can cause a spectrum of psychiatric disturbances such as affective disturbance and psychosis as well as neuropsychiatric symptoms such as apathy and irritability [11,12]. Literature is scarce regarding treatment of psychiatric manifestations in HD. We catered our approach towards safe and effective symptom management in a multidisciplinary manner. An additional issue which led to his prolonged hospital stay was unavailability of HD care facilities due to the stringent insurance conditions and coverage of restricted conditions.  
**Conclusion:**Further research is required to reach an evidence-based consensus as well as develop specific guidelines for managing Psychiatric conditions related to HD. Additional developments to navigate the insurance barriers as well as create more defined clinical pathways would be the next steps to ensure adequate long-term care in a timely manner

### **No. 31**

#### **Proactive Psychiatric Consultation's Clinical Utility for Intensive Care Patients With Delirium and Respiratory Failure: A Retrospective Chart Review**

*Poster Presenter: Elisabeth Ann Dietrich, M.D.*

*Co-Author: Melissa Bui, M.D.*

#### **SUMMARY:**

Delirium is a neuropsychiatric condition frequently experienced by intensive care patients and associated with higher rates of adverse outcomes, such as mortality and prolonged length of stay.<sup>1</sup> In previous studies, the expansion of psychiatric consultation to include a proactive approach has been shown to improve clinical outcomes for patients in the general medical setting, as well as the medical intensive care setting.<sup>2,3</sup> One advantage stems from the use of objective screening criteria to ensure more equitable distribution of care. Given the benefits of utilizing this approach rather than the traditional, reactive model, a proactive model of psychiatric consultation has been implemented in the Medical Respiratory Intensive Care Unit (MRICU) at VCU Medical Center, with a focus on early identification and treatment of delirium. In a



retrospective chart review, de-identified patient data will be collected in order to evaluate the impact of proactive psychiatric consultation on patient outcomes in the MRICU. As previous studies have demonstrated that this model of care disproportionately benefits ICU patients facing respiratory failure,<sup>3</sup> the population of interest will consist of MRICU patients with respiratory failure and delirium. Clinical variables including hospital and ICU length of stay will be compared among four subgroups within this population: patients who did and did not receive psychiatry consults during the pre-intervention period and those who did and did not receive psychiatry consults during the post-intervention period. This pilot data analysis will aim to include twelve patients in each of the four subgroups with a total of forty-eight patients. The pre-intervention period will last from April 1, 2020 to September 30, 2020, with the post-intervention period from November 1, 2020 to April 30, 2021. A statistical analysis will be performed to identify trends among the clinical variables for this patient population. The hypothesis for this study will predict that patients who receive a psychiatry consult during the post-intervention period will have the shortest hospital and ICU length of stay among the four subgroups. Given that length of stay can be used as an indicator of quality of patient care, efficiency of treatment, as well as absence of adverse clinical outcomes, this study will evaluate the clinical utility of the proactive psychiatric consultation. Decreased length of stay has financial benefits for the individual patient, as well as the larger healthcare system. Consequently, if proactive psychiatric consultation is associated with a statistically significant reduction in length of stay, it will prove to be financially beneficial as well. This study will aim to examine the application of this model of care within a unique patient care environment not frequently regarded in psychiatric literature, the ICU. If associated with improved patient outcomes, proactive psychiatric consultation may be utilized more broadly.

### **No. 32**

#### **Prospective Study of Pediatric Delirium in a General Hospital**

*Poster Presenter: Sofía Vázquez, M.D.*

*Co-Authors: Diana Molina, M.D., Silvestre Garcia de La Puente, Ph.D.*

### **SUMMARY:**

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### **No. 33**

#### **Psychiatric Comorbidities in Infectious Diseases**

*Poster Presenter: Faiza Farooq, M.D.*

*Co-Authors: Anum Khan, Muhammad Farooqi*

### **SUMMARY:**

**Introduction:** Psychiatric conditions may be defined as states of cognitive and behavioral inflexibility which manifest as aberrations in thought, coherence, and mood. The authors propose that the neurobiological insults caused by pathogenic infections produce similar cascades of direct and immunologic responses which may manifest as psychiatric symptoms. Here, we present a case to support this hypothesis. **Case Presentation:** Patient was introduced to our care in January 2018 when he presented to the ED for evaluation of two days of mutism. Patient was 19 years of age at that time, enrolled in College, had no preceding psychiatric or chronic medical illness. He was assessed psychiatrically under the diagnostic impression of catatonia and received a trial of IV lorazepam and became conversant. Further workup revealed positive serum Lyme titers (Lyme EIA). Psychiatry initially recommended Lorazepam 1 mg PO Q6 hours and Risperidone but Risperidone was discontinued upon discharge and only Lorazepam 0.5 mg PO and antibiotics were continued. Patient was able to return to his near baseline functioning until he was re-introduced to our care last year in the context of delusions and religious preoccupations preceding Covid-19 infection. His mental state improved after treatment with Olanzapine. Patient's return to baseline after both infectious processes makes the diagnosis of primary psychiatric disorder less likely. However, we cannot rule out the possibility that medication adherence is contributing to his sustained remission. **Discussion:** In this case report, the patient suffered from two psychotic outbreaks concurrent with two infectious diseases which raises the question if these psychotic episodes were potentially triggered by the infectious diseases. As multiple researches have correlated Lyme's disease with a wide array of psychiatric symptoms in the

past ranging from depression, anxiety, panic attacks, mania, to auditory, visual, olfactory hallucinations, delusions, and paranoia along with other neurological symptoms, including confusion, catatonia, thought disorder, and dementia [1]. The patient presented with another episode of psychosis preceding Covid-19 virus contraction after 2 years. In one study, authors have compared novel coronavirus with influenza virus which is known to cause Schizophrenia [2]. It is imperative to identify psychiatric symptoms caused either by a primary psychiatric illness or psychiatric symptoms caused by another medical/infectious condition early in the course of illness for timely treatment to avoid delayed diagnosis of primary condition or complications with possible misdiagnosis and reduce the need for long-term treatment [3]. **Conclusion:** Thus both the literature and the aforementioned case indicate that physicians must maintain a high degree of suspicion for an infectious process as a potential underlying cause of novel or re-emergent psychosis. However, this remains an open hypothesis and should be explored further.

**No. 34**  
**Psychiatric Comorbidities Associated With Postural Tachycardia Syndrome (POTS): Case Report and Literature Review**

*Poster Presenter: Shruti Nadkarni, D.O.*

*Co-Authors: Subani Maheshwari, M.D., Morgan Campbell*

**SUMMARY:**

Background: In POTS, transitions from lying to standing cause large increases in heart rate. Patients with POTS often have lightheadedness, confusion, blurred vision, and weakness. Sometimes this is associated with syncope and falls. People with POTS often have diminished quality of life leading to a higher prevalence of depression and anxiety. An estimated 500,000 Americans are affected by POTS. The average age of onset is 20, and the female-to-male ratio is between 4:1 and 5:1. A variety of pathophysiologic conditions can potentially cause POTS: hypovolemia, hyperadrenergic state, neuropathy, and autoimmune conditions. Anxiety and depression can worsen POTS. In addition, psychotropic medications can exacerbate orthostatic

hypotension. Many patients with POTS avoid physical activity because of orthostatic intolerance. Patients may experience somatic hypervigilance, in which they perceive sensory information as distressing. Patients have increased risk of inattention, short-term memory problems, suicidality, and sleep difficulties. Case Report: A 44-year-old female with a history of depression, ADHD, trigeminal neuralgia, chronic headache, and POTS presented to the hospital after a fall following a syncopal episode due to worsening POTS and dehydration. She also reported worsening depression, poor energy, and mental dullness. She was on Escitalopram, Bupropion, and Lamotrigine. She was switched to Duloxetine for both depression and pain. Bupropion was continued for depression and history of ADHD. She reported significant anxiety and functional impairments due to POTS, requiring a leave of absence from her job. She was counseled to follow up with outpatient psychiatry, psychotherapy, and POTS clinic. The patient tolerated the medications well and reported no side effects. Discussion: Individuals with POTS have an increased risk for psychiatric comorbidities and cognitive dysfunctions with quality of life impacts comparable to congestive heart failure or chronic obstructive pulmonary disease. While several psychotropic medications can worsen POTS, one paper recommended adding either a serotonin or norepinephrine reuptake inhibitor to help alleviate psychiatric symptoms. Duloxetine and Venlafaxine are preferred due to dual action on serotonin and norepinephrine. Along with pharmacologic measures, cognitive behavioral therapy may improve quality of life and cognitive function. The case highlights difficulties in choosing psychotropic medications for depression and anxiety, as these medications can lead to worsening of falls and syncope. However, certain combinations of medications and therapy can improve quality of life.

**No. 35**  
**Should We Be More Sympathetic? A Case of Paroxysmal Sympathetic Hyperactivity Masquading as Hypersensitivity to Neuroleptics?**

*Poster Presenter: Kinza Tareen, M.D.*

*Co-Authors: Pilar Lachhwani, M.D., Anna Pearl Shapiro-Krew, M.D.*

**SUMMARY:**

**Background:** Paroxysmal Sympathetic Hypersensitivity (PSH) is a phenomenon that has been associated with traumatic brain injury, stroke, anti-NMDA receptor encephalitis, and cerebral hypoxia that is characterized by episodic autonomic dysfunction.<sup>1,2</sup> The sympathetic hyperactivity is hypothesized to be a product of functional disconnections in deep brain structures that cause a relative reduction in dopaminergic activity, which causes unopposed adrenergic outflow and catecholamine storms.<sup>3,4</sup> **Case Presentation:** We present a case of a 41-year-old man with a history of hypertension, hyperlipidemia, anxiety, and right cerebellar infarct with hemorrhagic transformation resulting in right suboccipital craniotomy and ventriculoperitoneal shunting, right vertebral artery stenosis, with residual right hemianopsia, right hemiparesis, and slurred speech. He presented with worsening mentation and a constellation of symptoms including diaphoresis, right-sided spasms, hyperventilation, fevers, and urinary incontinence that occurred periodically. Symptoms had been increasing in frequency and intensity over several months. There was concern that buspirone, risperidone, olanzapine and fentanyl were worsening and prolonging symptoms, which prompted admission. Psychiatry was consulted to assist in the differential diagnosis. Due to symptoms worsening with both antipsychotics and serotonergic medications there was concern patient could be struggling from neuroleptic malignant syndrome or serotonin syndrome. These disorders seemed unlikely given the intermittent presentation of symptoms, however, serotonergic medications (such as citalopram, baclofen and fentanyl) were discontinued and minimal antipsychotics were used during admission (for occasional agitation). Throughout the course of hospitalization, patient continued to have intermittent episodes of fevers, diaphoresis, hyperventilation, and rigidity. In collaboration with Neurology, bromocriptine 2.5 mg BID was started, which resulted in improved sympathetic hyperactivity. His hospital course was complicated by multifactorial hyperactive encephalopathy associated with *Acinetobacter* bacteremia. Patient's mentation steadily improved and he was discharged to an acute care facility in a

stable condition with no further episodes of sympathetic hyperactivity. **Discussion:** Red herrings often present in medicine, in this case serotonergic and neuroleptic agents complicated the clinical picture. This unique presentation of PSH highlights the importance of diagnostic clarity and clinical distinction between neuroleptic malignant syndrome, serotonin syndrome, and PSH.

**No. 36****Substance Use, HIV, COVID-19, and Pregnancy: A Vulnerable Woman's Tale in Access to Care**

*Poster Presenter: Samer El Hayek, M.D.*

*Co-Authors: Vanessa Padilla, Lujain Alhajji, M.D.*

**SUMMARY:**

Healthcare services provided during the perinatal period may be the initial point of contact for women with substance use disorders. Pregnant women with substance use disorders present clinical challenges including comorbid medical and psychiatric disorders, trauma, limited access to prenatal care, poor social support, legal consequences, and increased stigma. Ms. A., a 22-year-old unsheltered African-American multigravida female at 38 weeks of gestation, with a history of cannabis, cocaine, and alcohol use disorder, borderline personality disorder, and poorly controlled HIV (CD4 count 745, VL 7,741) was admitted to the obstetrics unit after being found on the street complaining of abdominal pain and testing positive for uncomplicated COVID-19 and urinary tract infection. Her urine drug screen was positive for cocaine and cannabis. She was started on intravenous Zidovudine. Infection control precautions were initiated. The consultation-liaison psychiatry team was consulted for evaluation of substance use. Ms. A. used cocaine and cannabis throughout her pregnancy but stopped alcohol use around 16 weeks of gestation. On evaluation, she denied mood, anxiety, or psychotic symptoms, but exhibited cocaine withdrawal signs. She denied receiving prior addiction treatment and declined referral. Education and counseling were offered on the effects of active substance use, untreated HIV infection, and COVID-19 infection on her fetus and breastfeeding. A healthy male (Apgar score 8/8/9) was delivered via cesarean section. During her seven hospital days of admission, disposition was

complicated by the unavailability of COVID-19 quarantine beds in family assistance programs or substance use treatment programs. Resources for outpatient mental health and substance use treatment, special immunology, and postpartum follow-up appointments were arranged. She was discharged to herself, while her newborn was discharged under child welfare custody. The COVID-19 pandemic presents barriers towards vulnerable patients accessing healthcare services. Early proactive involvement of social work services is vital to address unmet social needs and ensure that patients meet the criteria for admission into rehabilitation treatment programs and shelters while adhering to isolation requirements after hospital discharge. A culturally-informed, trauma-focused, holistic, collaborative interdisciplinary approach involving obstetrics and gynecology, pediatrics, mental health and addiction providers, case managers, primary care, and social workers is necessary for the treatment of pregnant women with substance use disorders. Additional strategies such as utilizing motivational interviewing techniques, promoting problem-solving skills, providing parenting classes, enhancing community support, implementing harm reduction efforts, and developing safety plans for pregnant women with substance use disorders may be beneficial for recovery and improved outcomes.

### **No. 37**

#### **The Relationship Between Self-Reported Physical Health and Personality Inventory for DSM-5-Brief Form (PID-5-BF)**

*Poster Presenter: Meghan Oswald*

*Co-Author: Joanna Stanczak*

#### **SUMMARY:**

**Intro:** Research has shown that personality factors have been linked to patients physical health (Srivastava & Das, 2015). There is also a growing collaboration between medicine and mental health as many believe that medical outcomes are affected by mental health issues and vice versa. **Methods:** 115 adult patients receiving treatment at Mather Hospital's outpatient behavioral health clinic consented and completed a packet of self-report measures. This packet included the Personality

Inventory for the DSM-5-Brief Form (PID-5-BF; APA, 2013), a 25-item self-rated personality trait assessment scale for adults assessing 5 personality traits (negative affect, detachment, antagonism, disinhibition, and psychoticism). The patients also completed a one item rating scale to assess their current physical health using a Likert-like scale from 1 (excellent) to 5 (poor). **Results:** The average age of participants was 39.71 (SD=16.72) and included 69.6% males (n=80). Results revealed that patients' physical health rating was correlated with the PID-5-BF personality traits of negative affect ( $r = 0.44, p < 0.001$ ), detachment ( $r = 0.36, p < 0.001$ ), antagonism ( $r = 0.23, p = 0.01$ ), disinhibition ( $r = 0.28, p < 0.01$ ), and psychoticism ( $r = 0.31, p < 0.01$ ). **Discussion:** Our results show that there is a strong relationship between self-reports of physical health and personality traits. Our correlations show that the strongest relationship appears to be negative affect. Our results show that either negative affect may bias patients into feeling as though they are physically less healthy, people who score higher on negative affect may take less care of their medical and physical health, or that poor overall health may lead to greater psychopathology and personality pathology.

### **No. 38**

#### **Pain and Suicide: What Should We Tell Our Trainees?**

*Poster Presenter: Soroush Pakniyat-Jahromi, M.D.*

*Co-Author: Leo Sher, M.D.*

#### **SUMMARY:**

**Objective:** This paper will emphasize the necessity to improve education about pain, its close relationship with suicide, and effective suicide screening as well as management strategies for medical providers.

**Methods:** A review of the relevant literature.

**Results:** Chronic pain is a debilitating medical condition affecting a significant percentage of the population worldwide. Considerable evidence suggests that pain is an independent risk factor for suicide and inadequately managing pain has been identified as a risk for suicidal behavior. Additionally, medications used to treat pain may also contribute to suicidal behavior. Extensive research on pain highlights deficiencies in the clinical management of

pain with more gaps in care when patients have pain in combination with mental illness and suicidal behavior. **Conclusion:** Providing trainees with additional knowledge and equipping them with relevant tools to screen and manage chronic pain efficiently is a potential strategy to mitigate suicide risk. Also, trainees need to be educated on how to screen for suicidality in individuals with pain and apply suicide prevention interventions. With additional research, it is the hope that novel treatment modalities will be developed to treat pain to improve the quality of life of individuals suffering from this condition and to decrease suicide risk in this patient population.

### **No. 39**

#### **“It’s Not a Question of Whether It’ll Happen, but One of When?” Coping With Patient and Resident Suicide as a Trainee**

*Poster Presenter: Shalini Dutta, M.D.*

*Co-Authors: Souparno Mitra, M.D., Alexandra Alvarado*

#### **SUMMARY:**

**Introduction:** According to the CDC, suicide is the 10th leading cause of death in the U.S. Approximately 87% to 91% of people who die by suicide suffer from mental illness and approximately 20% had contact with a mental health specialist in the month before their suicides. These statistics mean that two-thirds of psychiatrists may experience patient suicide during their careers; an adversity that can be considered an “occupational hazard”. We present a case of a patient that completed suicide. **Case Report:** Mr X is a 63-year-old male with no past psychiatric history referred to outpatient treatment after presenting to the Comprehensive Psychiatric Emergency Program with insomnia, crying spells, and increased anxiety related to being on house arrest for 5 months due to an open case for drug trafficking. He had occasional suicidal ideation although stated that he felt responsible for family and would not hurt himself; and was started on Lexapro, Vistaril and Buspar. Two months later, he was admitted to the inpatient unit for bizarre behavior. He presented anxious, tense and tearful, and later endorsed suicidal thoughts so he was placed on constant observation and started

on Abilify, Risperdal and Trazodone. Upon discharge, patient had a moderate risk for suicide which was likely to remain unchanged until court date was resolved. He was discharged with a safety plan. He continued weekly outpatient visits where he continued to present with increased anxiety and clonazepam was started. Six months later, patient completed suicide by hanging himself. **Discussion:** Authors have described the impact of patient suicide on the practice of mental health professionals. The most common emotions experienced by professionals are shock, guilt, sadness, nervousness and low self-esteem. Some of the common impacts on their professional front include lack of confidence in professional ability and excessive fear of medico-legal consequences. This impact was also found to be more among trainees than senior physicians by some studies. There is no mandate from training organizations to require psychiatry training programs to provide formal education in this area. Nevertheless, studies suggest that operationalized postvention programs that addresses medico-legal concerns, normalizes emotional responses and offers psychotherapy, process groups and connection with peers/faculty that had a similar experience, can strengthen suicide prevention, destigmatize the tragedy, and promote caregiver recovery in a more impactful way for residents than other less structured forms of support. Some guiding principles for these programs are: to decrease the feelings of isolation among resident physicians; to help trainees understand that bad patient outcomes do not equal personal failures; and to respond to this professional tragedy with kindness and support even if that takes more work and attention.

### **No. 40**

#### **An Examination of Pediatric Suicidal Crises**

*Poster Presenter: Ryan Adell, M.D.*

*Co-Author: Jaclyn Pagliaro, M.P.H.*

#### **SUMMARY:**

**Introduction:** In the United States, the number of children and adolescents attempting and dying by suicide has been steadily increasing over time. From 2008 to 2015, the percentage of pediatric visits for suicide ideation (SI) and suicide attempts (SA) more than doubled from 0.66% to 1.82%, increasing 0.16%

annually<sup>1</sup>. This increase has been observed across all age groups and has led to suicide being the leading cause of death of individuals aged 10 to 34 years old, accounting for over 47,500 deaths annually<sup>2</sup>. This notable increase in rate of youth suicide has led to a public health crisis and has implications for the future medical treatment of pediatric patients. As such, understanding characteristics associated with suicidal behaviors may have important implications in designing supportive and preventative services. In this poster, we use data to compare suicidal behaviors of children and adolescents hospitalized at a local hospital. **Methods:** In this single-center retrospective study, all pediatric inpatients at a local acute psychiatric hospital admitted from October to December 2019 were assessed. A total of 258 patients (46% white, 60% female, median age 13.8 +/-2.34 years), were admitted to the in-patient psychiatric hospital during the study period. Through an analysis of demographic characteristics, methods of suicide attempts were compared looking at cohorts who attempted suicide and those who did not attempt but had a plan; there was a third cohort admitted for suicidal ideation but with no plan and they were not included in this comparison. **Results:** Comparing methods for suicide attempts within the group who attempted suicide, the highest percentage within that group is pill overdose (46.8%), followed by cutting/stabbing (22.6%). Of those who did not attempt but had a plan, the group with the highest percentage is cutting/stabbing (45.2%) followed by pill overdose (12.3%). **Conclusions:** The data we examined demonstrates the importance of discussing safety with adolescents and their families, especially related to prescription and OTC medications. However, there is still limited data on this topic and future research into the methods of suicide attempts would be helpful in informing child and adolescent psychiatric care.

#### **No. 41**

##### **Suicide Attempt Survivor Discharged Without Adequate Psychiatric Interventions**

*Poster Presenter: Alexandra Rossi*

*Co-Author: Phebe Mary Tucker, M.D.*

#### **SUMMARY:**

**Background:** Suicide is a public health issue as it is the 15th leading cause of death globally. In the US, over 1 million suicide attempts are made each year. The risk of dying by suicide increases once an attempt is made. Suicide may be reduced by improving care after an attempt. We describe a veteran who survived a suicide attempt, but received substandard care. **Clinical Case:** A middle-aged veteran with depression, PTSD, and alcohol use was admitted to the ICU for self-inflicted gunshot wound to the face requiring several surgeries. Psychiatry, consulted after extubation, recommended inpatient psychiatric hospitalization once stable and restarting outpatient psychiatric medications of sertraline 50 mg daily and hydroxyzine. Trazodone was added, but no other changes were made during his 37 day stay. He was transferred to another facility for psychiatric hospitalization which his PEG tube prevented so he was admitted to medicine with psychiatry consulted recommending suicide precautions and psychiatric hospitalization once stable. He developed complications requiring IV antibiotics and further surgery. As a result, he was discharged 10 days later to attend his outpatient surgery appointment as his wound was worsening and his medical requirements prevented psychiatric admission. Although he denied SI, he had made a serious suicide attempt, yet he did not undergo psychiatric hospitalization or psychiatric medication adjustments during his prolonged course. He later returned to the facility requesting an outpatient psychiatry appointment for medication adjustments for depression and insomnia. **Discussion:** Suicide represents a global problem and prevention is essential as once a suicide attempt is made, there is an increased risk for eventual death by suicide. Psychiatric hospitalization has shown to reduce immediate risk, but inpatient psychiatric care after medical stabilization from suicide attempts can be challenging as medical needs can prevent psychiatric admission. Proper care should include an extensive evaluation, protection from self-harm, treatment of underlying psychiatric conditions, and timely follow-up. Factors associated with increased risk include decreasing patient monitoring, protection, or psychiatric treatment which was demonstrated with this veteran. He did not receive psychiatric

hospitalization after a serious suicide attempt due to his medical complications. Furthermore, he did not receive adequate treatment of his underlying depression throughout his medical stay as his sertraline was not increased from a starting dose despite being hospitalized for over a month. Additionally, a follow up psychiatric appointment was not made prior to discharge. Therefore, it is important to improve the care after an attempt to reduce suicide risk. Consideration should also be made about providing combined medical and psychiatric units in order for this vulnerable population to be better served.

#### **No. 42**

##### **Catatonia Presenting as Major Depressive Disorder With Psychotic Features—the Case for Increasing the Use of the Lorazepam Challenge**

*Poster Presenter: Angelina Singh, D.O.*

*Co-Authors: Erica Schmidt, M.D., Sanjay Chandragiri, M.D.*

#### **SUMMARY:**

The patient was a 54 year-old female with a history of Major Depressive Disorder and Generalized Anxiety Disorder who initially presented with symptoms of depression with psychotic features in the setting of increased psychosocial stressors following the start of the COVID pandemic. She was subsequently admitted to the inpatient psychiatry unit involuntarily due to an inability to care for herself as a result of mental illness. Upon admission, history was limited due to the patient's confusion, alogia, and poverty of speech. History provided by her husband revealed that the patient had struggled to adjust to her job as a kindergarten teacher when transitioning to an online curriculum was necessary as a result of the COVID pandemic. She exhibited a depressed mood with flat affect, staring, mutism, stupor, marked withdrawal, increased latency of speech, paranoia, delusions, and visual hallucinations. The patient had minimal oral intake due to the delusion that all food and liquids were poisonous. She refrained from urinating and passing bowel movements in the toilet due to the belief that the sewage would accumulate in her backyard. Initial routine medical evaluation was significant for urinary retention requiring straight catheterization

and acute kidney injury secondary to dehydration. The patient was initially started on mirtazapine 15 mg qHS PO and olanzapine 5 mg BID PO with little improvement in her clinical presentation. Due to a refusal to take oral medications, the patient had to be placed in a manual hold daily for administration of intramuscular medications. On one occasion, the patient refused to take oral medications, and lorazepam 2 mg IM injection was administered for agitation. An hour later, the patient was observed eating and drinking and was seen speaking with her roommate. Following the introduction of a standing order for lorazepam, her ability to care for herself and attend to her activities of daily living significantly improved. The patient's speech became more spontaneous and she was noted to be more social with peers on the unit. This suggested that the underlying diagnosis was Catatonia Associated with Major Depressive Disorder, a diagnosis that was missed and led to a prolonged hospitalized stay. The diagnosis may have been overlooked due to the severity of the patient's depression and the accompanying psychotic features. In this poster, we discuss the importance and challenges of recognizing and treating catatonia in severely depressed patients with psychotic features.

#### **No. 43**

##### **Economic Barriers to Ketamine Therapy in a Patient With Treatment-Resistant Depression**

*Poster Presenter: Sharon Scaria*

*Lead Author: Amber Hume*

*Co-Authors: Melissa Gunewardena, Jessie Rose Katz, M.D., Joshua Thompson, M.D.*

#### **SUMMARY:**

Treatment resistant depression remains a common clinical outcome for patients with major depressive disorder. Though lacking clear diagnostic criteria, many mental health care providers consider a patient to have treatment resistant depression after an inadequate response to a minimum of four therapies. Therapies may include pharmaceutical intervention, electroconvulsive therapy, deep brain stimulation, transcranial magnetic stimulation, vagus nerve stimulation, counselling, and/or ketamine. This poster will explore the economic barriers preventing patients with treatment resistant depression from

accessing ketamine therapy. For many years, ketamine has proven effective and been widely administered as a step-up in treatment for patients with major depressive disorder. Ketamine can be administered intranasally, intramuscularly or intravenously, for the treatment of depression. However, access to ketamine therapy requires a significant financial commitment by the patient irrespective of insurance coverage. Costs associated with ketamine therapy may include: initial consultation/evaluation fees, initial titration visit, weekly/monthly clinical administration of ketamine, follow-up visits, co-payments and time off work. The recurrent costly fees associated with ketamine therapy may render a barrier to treatment access for many patients with treatment resistant depression. Case report: We report the case of Ms. H, a 42-year-old Caucasian female with a long standing history of chronic major depressive disorder, anxiety, mood disorder, and attention deficit hyperactivity disorder who has demonstrated minimal improvement with traditional pharmacotherapy in addition to experiencing numerous adverse side effects. After several intramuscular ketamine injections, the patient showed marked improvement on her depression rating scales, but due to financial burden of treatment related costs had to switch to intranasal ketamine. Continued treatment may be further hindered by this economic burden and prevent long term use, despite the patient's responsiveness to intranasal ketamine. Due to the current financial barriers related to ketamine therapy, many patients with treatment resistant depression may be forced to exclude this effective and viable augmentation treatment; thus, further contributing to the societal burden of poorly managed mental health conditions.

#### **No. 44**

##### **Prevalence of Depression and Anxiety Among Soldiers Serving in Eastern Nepal**

*Poster Presenter: Atit Tiwari, M.B.B.S.*

*Co-Author: Surendra Limbu*

#### **SUMMARY:**

**Abstract:** Background: The soldiers are one of the greatest assets of any nation, while mostly their physical strength is noticed, there mental health is

often least cared. They have to work and train in harsh conditions, are deployed in disasters, wars and civil unrest, have less holidays and lesser family union and are thus prone to mental illness. We tried to identify the prevalence of depression and anxiety among the soldiers serving in eastern Nepal and also tried to identify the leading social determinants of depression and anxiety in them. Methods: It was a descriptive cross sectional study done on 314 soldiers in Sunsari district. Beck Depression Inventory and Beck anxiety scale were used. Results: We found that 15% had mild mood disorder, 10.5% had borderline depression, 12.7% had moderate depression, 3.2% had severe depression and 1% had extreme depression. Similarly, 47.13% had low anxiety, 11.15% had moderate anxiety and 1.59% had severe anxiety. Depression and anxiety were found to be significantly and positively associated to one other. Both depression and anxiety showed significant association with male soldiers of age greater than 35 years with average socio economic condition and consuming alcohol. Discussion: Similar studies conducted in Northern Taiwan had showed the prevalence of depression among trainee soldiers to be 27.4% (1). Similarly, research done in UK showed the prevalence of mental health disorders and PTSD among the soldiers returning from Iraq war to be 27.2% and 4.8% respectively (2). Also another research done on military personnel showed job stress to be significantly related to depression (3). Our findings are consistent with them. Conclusion: Mental health issues in soldiers are common and the policy makers really need to address it, as it is our duty to care and think about those who are ready to give their lives to protect us.

#### **No. 45**

##### **Role of B12 and Its Metabolites in Depression and Suicidality: A Review**

*Poster Presenter: Shivani A. Kaushal, B.S.*

*Co-Authors: Sara Khan, B.S., Clara L. Alvarez Villalba, M.D., Charmi Balsara, M.D.*

#### **SUMMARY:**

Background Vitamin supplementation is an increasingly relevant consideration in the treatment of psychiatric disorders, especially as the medical field embraces a more holistic view of disease



treatment and acknowledges the diverse factors that contribute to overall health, such as diet and social wellbeing. One such application is the study of vitamin B12 supplementation in major depressive disorder (MDD). Patients with MDD have lower serum levels of B12 and folate compared to controls<sup>1-3</sup>. Early B12 supplementation can delay depression onset and increase antidepressant efficacy but may not be effective in alleviating depressive symptoms<sup>4-5</sup>. However, B12 metabolites such as folate and S-Adenosylmethionine (SAME) do appear to have a role in reducing symptoms in MDD, including treatment-resistant subtypes<sup>6-7</sup>. Thus, while associations between MDD and B12 have been established, less is known about the specific aspects of depression (e.g., suicidality, anhedonia) in which vitamin B12 may play a role, which could aid in optimization of depression treatment. Methods A literature search was conducted through querying the PubMed database for associations between depression and B12, folate, or homocysteine levels with the following criteria: ((depression) AND (B12)) OR ((depression) AND (folate)) OR ((depression) AND (homocysteine)). A more focused search was then carried out by focusing on suicidality, a specific depressive symptom, with the following criteria: ((suicide) AND (B12)) OR ((suicide) AND (folate)) OR ((suicide) AND (homocysteine)). Two independent reviewers determined eligibility and relevance of articles in each search. Results PubMed search with criteria for associations between B12 and depression yielded 1415 total results. Results from relevant studies in this search generally supported an association between depression and B12, folate, or homocysteine levels, but no clear consensus on the roles of these metabolites in depression. With search criteria for suicidality, PubMed queries yielded 80 total results, with only three studies evaluating the association between suicidality and B12 or its metabolites. Together, these studies suggested an association between suicidal ideation and low B12, folic acid, and fatty acid levels; an ambiguous association between high homocysteine levels and suicidal ideation; and an association between geriatric depression and low folate/B12 & high homocysteine levels, with commentary on higher levels of suicidal ideation in the depressed elderly population<sup>8-10</sup>. Conclusion This review highlights the necessity of more focused research

into the roles of metabolites such as B12, folate, and homocysteine in depression and, more specifically, suicidality. Elucidating an association between B12 metabolite levels and suicidality could reveal another tool for suicidal patients, with supplementation potentially providing an adjunct to antidepressants, improving symptoms, and/or reducing risk of future suicide attempts<sup>6,9</sup>.

**No. 46**  
**Sociocultural Factors Explaining Increased Depression in Middle Eastern Immigrant and Refugee Women**

*Poster Presenter: Ayyub Imtiaz, M.D.*

*Co-Author: Yara Moustafa, M.D., Ph.D.*

**SUMMARY:**

Introduction: Minority groups, such as Middle Eastern immigrants and refugees bring different cultural and societal values to the USA. These groups are already significantly marginalized and stigmatized, leading to great health disparities especially in mental health. These disparities are exacerbated leading to further stigmatization and worsening of health outcomes when there is lack of comprehension of the unique sociocultural factors affecting this population. Methods: A thorough review of papers discussing depressive disorders and its subtypes, such as postpartum depression, in Middle Eastern immigrant and refugee women was conducted. Qualitative analysis was done to identify common themes and factors present in this population. Additionally, the connections between the few identified factors were further explored. Results: A multifactorial interconnected model primarily focused on marriage is a prominent theme found in the articles. Since marriage seems to be a focus starting from early women's lives, education drive and achievement tends to be lower, which increases risk of consanguinity and polygamy, both of which are interconnected and lead to higher rates of depression. Consanguinity reduces genetic mixing, leading to higher autoimmune diseases which in turn can lead to increased infertility and depression. Consanguinity is higher in refugees as there is security for the individual to stay within close groups rather than take interest in other communities, even if they are originally from the same nation. Another

prominent focus within marriage is the relationship and satisfaction of the in-laws with the woman. Lowered satisfaction, especially from the mother-in-law, is a driving factor to increased postpartum depression and domestic violence. Infertility can worsen an already troubled relationship with the in-law family of a Middle Eastern immigrant woman, compounding on the depressive effect infertility already has on women worldwide. Domestic violence is also of significant concern, which can happen when the partner is frustrated about the woman not meeting the various requirements and standards set by the in-laws. These factors are all bound within the frames of the severity of difference in sociocultural values between immigrants and homeland nationals. When immigrants first leave, they carry and solidify their values from the time they moved which tend to be more conservative, rather than the values the homeland holds now, which tend to be more secular and liberal. Conclusion: Mental health professionals should be culturally sensitive to the special needs affecting immigrants and refugees within the USA. Moreover, these factors become important to explore when dealing with generational trauma in first and second-generation born immigrants, as well as refugees from the Middle East as the effects can propagate.

#### **No. 47**

##### **Treatment Refractory Catatonia in a Schizophrenic Patient With Anti-Voltage-Gated Potassium Channel Complex (VGKCC) Antibodies**

*Poster Presenter: Victor Kekere, M.D., M.S.*

*Co-Authors: Nermien Kandeel, Nkolika Jean Odenigbo, M.D., M.P.H.*

#### **SUMMARY:**

Catatonia, which is characterized by motoric immobility such as catalepsy or stupor, mutism, negativism, is shown in about 10-15% of patients with schizophrenia. Current research demonstrates variable treatment with benzodiazepines, electroconvulsive therapy (ECT), N-Methyl-D-Aspartate (NMDA) antagonists, and antipsychotics. A wide variety of clinical syndromes have been linked with antibodies to Voltage-gated Potassium Channels (VGKCs). However, there is paucity of literature for refractory catatonia in schizophrenic patients with

anti-voltage-gated potassium channel complex (VGKCC) antibodies. Hence, we present the unique case of a 51-year-old African American female with a history of Schizophrenia who was admitted for catatonia. The catatonia had a chronic two month relapsing remitting course, with a relapse when benzodiazepine was tapered off and remission when benzodiazepine was resumed. Sustained remission was achieved with maintenance benzodiazepine and dopamine agonist medications. An extensive work up was significant for moderately elevated anti-voltage-gated potassium channel complex (VGKCC) antibodies. The neuropathogenesis of chronic catatonia in a patient with anti-voltage-gated potassium channel complex (VGKCC) antibodies and possibility of revising the neuropsychiatric syndrome of anti-VGKCC encephalitis to include chronic catatonia is discussed. Although catatonia can be a presenting symptom of schizophrenia, the presence of refractory schizophrenia should prompt a thorough medical workup which can elucidate possible underlying autoimmune etiology or other contributing factors.

#### **No. 48**

##### **American Indian Chronic Disease Risk and Sleep Health (AI-CHERISH)**

*Poster Presenter: Raven Burns*

#### **SUMMARY:**

The focus of this poster will be on the barriers to healthy sleep reported by participants with a focus on culturally specific influences amongst American Indians (AIs). One-third of US adults experience insufficient sleep, defined as fewer than 7 hours per night and more than 20% experience other sleep disorders, including insomnia and excessive daytime sleepiness. Such sleep deficiencies are important contributors to adverse health outcomes and early mortality in all populations. Associated adverse outcomes range from acute events, such as traffic accidents, to chronic conditions, such as obesity, type 2 diabetes, and cardiovascular disease (CVD). Notably, racial and ethnic minorities experience substantial sleep-related disparities. Many risk factors and consequences of chronic sleep problems are more common in AIs and Alaska Natives (ANs) than in non-Hispanic Whites Yet AI/ANs, who are

typically combined in national datasets, have been underrepresented in sleep research, with most data limited to self-report measures in small samples, or derived from surveys that were not designed to assess sleep. American Indian CHronic DisEase Risk and Sleep Health (AI-CHERISH) is a mixed-methods study. The primary goal is to quantify sleep deficiencies in AIs and evaluate their association with risk factors for chronic disease. Participants were drawn from the cohort for the Strong Heart Family Study (SHFS) across 3 geographic areas (southwest, northern plains, southern plains). Qualitative interviews were used to identify barriers to good sleep. Conventional content analysis was used to identify patterns and themes around sleep health. Barriers to sleep health included worries about COVID-19 and economic matters, diet, irregular sleep schedules, technology, vocational considerations, substance use, interruptions such as bathroom needs and restlessness, medical conditions, nightmares and unfit sleep environments. These barriers were analyzed to determine the role of Native culture on their impact. Cultural context played a large role in the effect these barriers had on participants' sleep. For example, dreams proved to be a barrier to sleep as the interpretation and importance of dreams is more pronounced amongst AI culture in comparison to the dominant western culture. In summary, AIs experience more risk factors and experience more sleep related disparities than other western populations. The barriers that AIs face to healthy sleep arise from a multitude of factors like culture and chronic medical conditions. This work informed the creation of a sleep health measure tailored for Native people which will be used in a large scale epidemiologic study of Native Sleep Health. This foundational research will establish the prevalence of sleep deficiencies in 3 diverse AI populations and determine which deficiencies are most strongly associated with chronic diseases that disproportionately affect Native people.

**No. 49**

**Development of a Culturally Sensitive Asian American/Pacific Islander Curriculum for Child Psychiatry Trainees**

*Poster Presenter: Crystal Han, M.D.*

**SUMMARY:**

The Asian American and Pacific Islander (AAPI) population is the fastest growing minority group in the US, have higher rates of depression/suicide attempts but are among the least likely to receive treatment, in part due to lack of culturally sensitive providers. The ACGME requires training programs to develop curricula that reflect the needs of their communities, particularly in racial minorities. AAPI individuals represent 5.3% of Maryland residents, but few training programs, including the University of Maryland, have reported curricula specifically on AAPI culture, needs and treatment. Learning objectives from this curriculum to fill this gap in education include: defining cultural identity, cultural humility, and specific challenges and guidance in treating AAPI families. In the past year, 5 guest lectures were given to 14 child psychiatry fellows at the University of Maryland on these themes. All fellows were based in Baltimore and guest lecturers with expertise in these fields spoke virtually from various institutes/private practice locations across the US. Lectures varied between 1-2 hours in a lecture format that included interactive discussion. Participants provided survey feedback on 5 questions. Responses reflected that the series deepened their understanding of the issues facing AAPI families, and recommended that this lecture series be repeated for future trainees. Specific feedback reported that this information was important to personal/professional understanding of the AAPI community and was lacking in their prior training. Due to a lack in standardized curriculum on culturally sensitive psychiatry, there is a significant dearth in providers/mentors with AAPI-specific knowledge. Training psychiatrists in structural competency and cultural humility is more predictive of positive patient outcomes than demographic of the provider themselves. Future lectures at this program will include how to engage AAPI communities in treatment and case consultation. Broader future goals would include standardizing and more widespread implementation of similar AAPI curricula across programs.

**No. 50****Diversity, Equity, and Inclusion (DEI)-Quality Improvement (QI) Toolbox as an Actionable Means to Effect Justice-Oriented Clinical Change**

*Poster Presenter: Ann Marie Gustafson, M.D.*

*Co-Authors: Tripti Soni, M.D., Eryn Elizabeth Nagel, M.D., Kimberly Gordon-Achebe, M.D.*

**SUMMARY:**

The integration of Diversity, Equity, and Inclusion (DEI)-related topics in clinical psychiatry has gained momentum in recent years as health inequities have attained wider recognition. Academic leaders have broadened their definition of core competencies to now include issues of health justice in medical education. Quality Improvement (QI) projects are a well-established method for advancing systematic change in a variety of clinical settings. Furthermore, QI projects have been adopted in residency training programs as a required component of medical education. The implementation of QI projects has been standardized with a series of questionnaires broadly referred to as a "QI Toolbox." We propose a justice-oriented approach to expanding the established medical curricula on quality improvement. We developed a "DEI-QI Toolbox" to empower trainees to identify health inequities in psychiatric practice with the aim of engendering meaningful change. We implemented our DEI-QI Toolbox in an adult psychiatry residency training program with pre- and post-surveys evaluating participants' engagement with DEI-related topics in clinical practice. We further assessed their ability, with regards to knowledge, support, and motivation, in implementing DEI-based QI projects. Preliminary data on engagement with DEI topics was generated and will inform future DEI topics in QI projects as well as curricula development. With this project, we propose an actionable DEI-QI Toolbox that introduces an accessible yet sustainable addition to residency education in promoting a more nuanced understanding of social determinants of health.

**No. 51****Examining the Impact of an Anti-Racist and Structural Discrimination Curriculum in a Rural Psychiatry Residency Program**

*Poster Presenter: Thara Meenakshi Nagarajan, M.D.*

*Co-Author: Julia R. Frew*

**SUMMARY:**

Racism, and its role in health and medicine, has been studied for many years. Yet we have seen over the last two years that the brutal combination of the COVID-19 pandemic and the continued epidemics of police brutality and hate crimes against minoritized populations demonstrate how powerful systemic racism is in America. Anti-racist education in the medical field is critical to educate and train medical professionals, such that physicians can apply an anti-racist and socially just lens to patient care and advocacy. In the field of mental health, understanding the intersection between racism and mental health illustrates the power of how experiences with systemic racism drive psychiatric illness and care. Antiracist education is often provided in diverse, urban medical programs, yet it is much more difficult to find anti-racist medical education in rural, racially homogenous areas. In response to the national need for social justice for minoritized populations, an anti-racist and structural discrimination curriculum was initiated in the Dartmouth-Hitchcock Medical Center Department of Psychiatry, a psychiatry training program located in a rural context. The curriculum was modeled after several curriculum initiatives that have been published and implemented by other psychiatric residency programs nationally. We aimed to incorporate this curriculum into multiple facets of learning environments, including a formal didactic curriculum, scientific discussions of anti-racism in journal articles, grand rounds presentations, a DEI committee within the department, and case formulations/clinical setting learning. These educational objectives were also integrated with training for psychology trainees within the psychiatry department. Data is collected and analyzed from surveys from trainees regarding the implementation of these sessions.

**No. 52****Factors Associated With Suicide Among Asian-American Adolescents: The 2019 YRBSS Cycle**

*Poster Presenter: Esha Hansoti, M.D.*

*Co-Authors: Sitara Weerakoon, Shachi Hansoti, May Lau*

## SUMMARY:

**Background** Asian-Americans are one of the fastest growing minorities in the United States. There is little research on suicidal ideation and behaviors in Asian-American youth. **Methods** The 2019 Youth Risk Behavior Surveillance System (2019) biennial national school-based survey of high school students was used to create a sample of 618 Asian-American adolescents. Univariate analysis on prevalence of suicide behaviors; bivariate analysis on association of suicidal ideation with dating violence, sexual violence, school victimization, and sexuality; and logistic regression was used to determine odds ratios (OR) of risk factors with suicidal ideation for Asian-American adolescents. **Results** Nearly 1/5 of Asian-American adolescents had suicidal ideation in the past year, with 16% who made a suicide plan and 8% attempted suicide. In multivariate analysis, Asian-American adolescents with a history of sexual/physical dating violence (OR 1.8; 95% CI 1.1-3.0) or forced sexual intercourse (OR 4.4; 95% CI 1.4-13.8) had greater odds of suicidal ideation. Asian-American youth who were bullied at school had 2.6 times greater odds (95% CI 1.4-5.1) of suicidal ideations. Finally, those Asian-American adolescents identifying as gay or lesbian had almost eight (OR: 7.9; 95% CI 1.1-57.5) times the odds and Asian-American adolescents identifying as bisexual had over five (OR: 5.2; 95% CI 2.3-11.9) times the odds of suicidal ideation compared with heterosexual Asian-American adolescents. **Conclusion** Asian-American adolescents have significantly higher rates of suicidal ideation than non-Hispanic white, non-Hispanic black, and Hispanic adolescents. Suicidal ideation among Asian-American adolescents is associated with experiencing dating violence, sexual violence, and school victimization, and identifying as a sexual minority. Further research may be warranted to tailor mental health interventions to meet the needs of Asian-American adolescents.

## No. 53

### Racial and Ethnic Differences on COVID-19 Perspectives in Patients With Psychiatric Illness

Poster Presenter: *Tiffany Ho*

Co-Authors: *Millie W. Nishikawa, Stefanie Cavalcanti, Jeff Wang Jin, Marsal Sanches, M.D., Ph.D., Hanjing Wu, M.D., Ph.D.*

## SUMMARY:

**Introduction:** COVID-19 pandemic has been associated with increased rates of depression, anxiety, and suicidal ideation. Individuals with mental illnesses are disproportionately affected by additional complex health issues. This study aims to examine the knowledge and impact of COVID-19 among patients with mental disorders at the Harris County Psychiatric Center (HCPC). **Methods:** A retrospective review of surveys conducted for patients with mental illness at HCPC. Participants were surveyed on demographics, COVID-19 knowledge, and COVID-19 healthcare impact. The data was analyzed with SPSS 20 for Windows at a 0.05 significance level. **Results:** A total of 46 patients were included in the study. We found that the patient population with mental disorders has different methods of obtaining information regarding COVID-19 and practices varying safety measures. To be precise, more women (52.2%) than men (21.7%) learned about COVID-19 through family and friends [ $p=0.032$ ]. More Hispanic (21.4%) compared to non-Hispanic (0%) patients learned about COVID-19 through resources from the World Health Organization (WHO) [ $p=0.032$ ]. Fewer African American (AA) patients avoided contact with people who were sick (39% vs. 81% Caucasian [ $p=0.01$ ] and 100% Asian/Native American/Pacific Islander [ANAPI] patients [ $p=0.04$ ]). We found more non-Hispanic (50.0%) vs. Hispanic (7.1%) patients reported that their personal time (time outside of work) was unchanged by COVID-19 [ $p=0.007$ ]. More Hispanic (57.1%) vs. non-Hispanic (17.9%) patients reported increased time with family members [ $p=0.009$ ]. Compared to Hispanic patients, more non-Hispanic patients reported unchanged difficulty scheduling appointments (46.4% vs. 7.1%) [ $p=0.015$ ], obtaining prescription (71.4% vs. 35.7%) [ $p=0.045$ ], and finding housing placement (53.6% vs. 21.4%) [ $p=0.047$ ]. Furthermore, more Caucasian compared to AA patients reported more changes in how they feel (35.7% vs. 76.2%) [ $p=0.033$ ], anxiety (52.6% vs. 0%) [ $p=0.002$ ], stress (47.4% vs. 7.7%) [ $p=0.024$ ], and sadness (30% vs. 0%) [ $p=0.031$ ]. Finally, more ANAPI (67%) compared to AA patients (0%) reported

increased anxiety [ $p=0.025$ ]. **Conclusion:** Our findings suggest that African American patients report less knowledge of COVID-19 prevention and less impact on their mental health by the pandemic compared to other racial groups. Our findings suggest that African American patients may have limited knowledge of COVID-19 prevention compared to other races, Caucasian and Asian/Native American/Pacific Islander patients may have increased mood changes, and Hispanic patients may be experiencing more healthcare inequality amidst the pandemic. However, further investigation of the impending ramifications of the pandemic is warranted.

#### **No. 54**

##### **Understanding Nicotine Use Disorder Among Latinos: Neglected Among the Neglected**

*Poster Presenter: David Mauricio Martinez Garza, M.D.*

*Co-Author: Daniel Jimenez, Ph.D.*

##### **SUMMARY:**

With a prevalence of 18%, nicotine is the most common substance use disorder in the US. Individuals with mental illness are disproportionately affected by tobacco use compared to the general population: three out of four patients with a psychiatric illness are smokers. Unfortunately, tobacco use disorder is one of the most often ignored illness among physicians. While 69% of smokers want to quit, only 48% who saw a health professional the last year reported receiving advice to quit, and of those who tried to quit, only 31% received either counseling or medication. This is particularly true for psychiatrists. In a 2007 Survey of the AAMC, 47% percent of psychiatrists felt patients had more pressing problems to address and 22% reported that cessation would likely exacerbate comorbid psychiatric symptoms. However, contrary to common belief that tobacco cessation will exacerbate psychiatric symptoms, there is overwhelming evidence demonstrating significant improvement in mental health and quality of life, including decreases in the severity of anxiety, depression, and stress. Rates of smoking are lower for Hispanics when compared to the general U.S. population, however, it is important to note that

there are broad variations among Hispanic subgroups, highlighting the need to disaggregate and not treat Hispanics as a monolithic group. For instance, according to data from the HCHS/SOL, Puerto Rican and Cuban men have higher rates of smoking prevalence, which exceeds the rates of non-Hispanic Whites (35% and 31.1%, respectively, vs 22.6% in 2010). On the other hand, Dominican and South American men have a tobacco use prevalence well below the national average (11% and 15.8%, respectively). Mexican and Central American men have smoking rates comparable to non-Hispanic men (23.4% and 20.6%, respectively). Over the last 50 years, there has been a U.S.-wide decline in smoking secondary to tobacco control efforts. For perspective, prevalence of smoking in 1970 was 50% compared to 18% today! Unfortunately, the impact of these smoking cessation campaigns has not been as effective among the Hispanic population. A 2017 survey to assess smoking prevention efforts in California, showed that Whites had a 13.3% decrease in heavy smoking between the 1990s and the 2000s compared to a 5.1% decrease in heavy among Mexican Americans and a mere 2.0% among Central/South Americans, highlighting the need of further strategies to ensure Hispanics benefit from anti-tobacco measures equally. Additionally, even though there has been a significant decrease in heavy smoking, this has been accompanied by a rising trend in light and intermittent smoking among Hispanics. Furthermore, Hispanic smokers have lower odds of receiving quitting advice from a health professional compared to their White counterparts. This highlight the importance of a culturally-informed based approach and the importance of targeted preventive measures for Hispanic communities.

#### **No. 55**

##### **Capacity Assessments and Medical Decision Making in Females With Behavioral Health Conditions**

*Poster Presenter: Catherine Lindsay Rutledge, M.D.*

##### **SUMMARY:**

A patient must have capacity in order to make medical decisions. As physicians, we strive to find balance between patient autonomy and our duties of beneficence and nonmaleficence. In terms of

women as a special population, there are biological, psychological, and social/cultural factors that should be considered when assessing the capacity to make medical decisions in the presence of existing behavioral health condition(s). These factors may include but are not limited to medical bias, history of abuse/domestic violence, the presence and interplay of various roles across the cultural sphere, and the ability to reproduce and carry a child. Not only should these factors be considered when evaluating a female with an existing mental health condition but nor do they or the mental health condition itself preclude a female patient from having capacity for medical decision making. Presence of these factors combined with the variety of possible mental conditions do, however, add complexity to such a capacity assessment. In this poster we discuss the challenges and various biopsychosocial factors to consider when evaluating a female patient with an existing behavioral health condition for the capacity to make medical decisions.

#### **No. 56**

##### **A Case of Recurrent Intentional Foreign Body Ingestion and Psychogenic Nonepileptiform Seizures in a Forensic Patient**

*Poster Presenter: Sarah Meyers, D.O.*

*Co-Authors: Alexander J. Kaye, M.D., M.B.A., Erin Zerbo, M.D.*

#### **SUMMARY:**

This case details a male geriatric forensic patient who suffered from recurrent intentional FBI throughout his hospital stay and new onset psychogenic nonepileptiform seizures (PNES). Within a single hospitalization, there are few reported cases of repeated intentional foreign body ingestion (FBI). This is also the first report of PNES in an incarcerated patient with comorbid intentional FBI. A 67 year old man with a past medical history notable for a seizure disorder, opioid use disorder, and hepatitis C infection presented for care following an intentional ingestion of multiple foreign bodies. Psychiatric history was pertinent for past suicide attempts via FBI. He reported having suffered a sexual trauma while in prison from another inmate. The patient underwent an upper endoscopy on hospital day 1 to recover pencils and an open safety pin. His hospital

course was complicated by seven rapid responses, five of them to address repeated seizure-like activity, and two of them for repetitive swallowing events requiring two additional upper endoscopies. He reported his FBI episodes were driven by a combination of a death wish and a means to avoid his return to prison. His seizure-like activity was found to be non-epileptiform on video electroencephalography. He was started on lorazepam 0.5 mg every 8 hours as needed for anxiety, as well as prazosin 6 mg daily for PTSD symptoms. For a preliminary diagnosis of unspecified depression and ongoing insomnia, he was started on sertraline 50 mg daily as he refused mirtazapine. Several attempts were made to transfer the patient to a psychiatric hospital but the recurrent FBI and seizure-like activity delayed this transition of care as the psychiatric units were not well equipped to deal with these issues. He was discharged back to prison after nearly two weeks. Intentional FBI has an incidence of one out of every 1,900 inmates [1]. There is a considerable financial burden associated with recurrent intentional ingestion, costing about \$14,274.80 per patient per hospitalization [1]. In addition, PNES has an associated lifetime cost of \$100,000 per patient [2-4]. Disposition for forensic patients with comorbid recurrent FBI and PNES is not only costly, but challenging because these patients may be too medically compromised for a psychiatric unit. In this case, the patient's medical complexity is reflected by his nearly two week hospital stay in the setting of recurrent ingestions and seizure-like activity. However, medical-surgical wards are not often as well-equipped to manage acute psychiatric patients compared to psychiatric units. This is demonstrated by the patient's ability to have two additional ingestion episodes despite continuous one-to-one monitoring. Reimagining patient care settings that can better handle acute medical and psychiatric disease, in coordination with a multidisciplinary approach, may be cost-saving and could holistically improve the care of these complex patients [5].

#### **No. 57**

##### **Mental Health Outcomes in Transgender and Gender Non-Binary Youth Receiving Gender-Affirming Care**

*Poster Presenter: Jonathon William Wanta, M.D.*

**SUMMARY:**

**Importance:** Due to reduced social support and increased stigma, transgender and nonbinary youth are disproportionately burdened by poor mental health outcomes. Although gender-affirming care is effective in reducing long-term adverse mental health outcomes among these youth, less is known about how it affects mental health during or immediately after initiation of care. **Objective:** To investigate the changes in mental health over the first year following enrollment in an urban multidisciplinary gender clinic. We sought to understand how initiation of pubertal blockers and gender affirming hormones were associated with changes in depression, anxiety, and suicidality. **Design:** Prospective observational cohort. **Setting:** Urban multidisciplinary gender clinic. **Participants:** Transgender and non-binary adolescents and young adults seeking gender-affirming care. **Exposures:** Time since enrollment and receipt of gender-affirming hormones or puberty blockers. **Main Outcomes and Measures:** Outcomes of interest were assessed via the PHQ-9 and GAD-7, which were dichotomized into measures of moderate or severe depression and anxiety (scores =10). Any self-report self-harm or suicidal thoughts over the past two weeks were assessed using PHQ-9 Question 9. We used generalized estimating equations to assess change from baseline in each outcome at 3, 6, and 12 months follow-up. We estimated bivariate and multivariate logistic models to examine temporal trends and estimate the association between receipt of gender-affirming hormones or puberty blockers and each outcome. **Results:** Participants included 104 transgender and non-binary youth 13-20 years of age. At baseline, 56.7% had moderate to severe depression, 50.0% moderate to severe anxiety, and 43.3% reported self-harm or suicidal thoughts. After adjusting for temporal trends and baseline covariates we observed a 60% decrease in depression (aOR 0.40; 95%CI: 0.17-0.95) and a 73% decrease in suicidality (aOR 0.27; 95%CI: 0.11-0.65) associated with the receipt of gender-affirming hormones or puberty blockers. Changes in anxiety were not statistically significant. **Conclusion and Relevance:** Gender affirming medical interventions were associated with substantial improvement in both depression and suicidality over the 12 month

period. Given this population's high rates of mental health disparities, these data provide critical evidence that expansion of access to gender affirming care may save lives.

**No. 58****Transverse: Development of a Measure to Assess Quality of Life for Transgender Veterans: Cultural Validation Via Transgender Veteran Focus Groups**

*Poster Presenter: Ria G. Joglekar, B.S.*

*Co-Authors: Suzanne Shealy, Ph.D., Miranda Essa, B.S., Jesse Do, B.A., Nancy Jones*

**SUMMARY:**

**Background:** There is a lack of clinical consistency when assessing and providing care for transgender veterans, despite their having unique needs, social determinants of health, and health disparities. The instruments currently used within the VA for transgender veterans include anxiety and/or depression scales (such as the PHQ-9 and the GAD-7) and patient self-reports of feelings post-treatment. These measures are not used uniformly and do not address transgender veteran specific needs and experiences. Having a standard instrument to repeatedly measure well-being and other factors affecting Quality of Life (QoL) in the transgender veteran population could be helpful for treatment planning and to monitor and assess effectiveness of clinical care. **Specific Aim:** TRANSVERSE aims to be a brief, self-report measure that can be repeatedly administered by clinicians treating gender diverse military veterans. The objective of this study is to culturally validate the TRANSVERSE tool by incorporating feedback from transgender veterans to create a relevant, effective, and culturally competent measure prior to further development for use in clinical practice. **Methods:** Participants were 20 veterans from the James A. Haley Veterans' Hospital medical records who self-identify as transgender. Participants were recruited for online focus groups via VA providers, flyers, and emails. The TRANSVERSE tool shown in each focus group included 16 items and five themes from previous literature review: self-satisfaction/pride, social support, safety, sex-characteristics/physical, and specific veteran care. The items were shown in sections, requesting initial thoughts from each



veteran, while allowing for discussion among all focus group participants. Finally, each veteran was asked to compare the TRANSVERSE to previously taken instruments, asked how they felt the tool could be improved, and if they felt it would be useful for their care in the VA system. **Results:** Feedback regarding the measure was positive. Suggestions for improving the TRANSVERSE included: specifying the “community” which responder feels connected to and engaged in, increasing use of active voice for item statements, and offering a connection to VA resources for each item of the tool. **Conclusion:** Positive focus group responses to the TRANSVERSE items support further work to develop this instrument. Having a tool to measure treatment needs and outcomes may be particularly helpful as VA works to expand care for transgender veterans. Next steps include gaining feedback from VA clinicians about responses to the measure and its perceived utility. Empirical validation research will then be needed to assess the instrument’s reliability, validity, factor structure, and other psychometric properties, including correlation with other clinical measures.

#### **No. 59**

##### **Change in Mental Status in Patients With Parkinson’s Disease With or Without Psychosis**

*Poster Presenter: Melissa Calt, M.D.*

*Co-Author: Adriana M. Fitzsimmons, M.D.*

##### **SUMMARY:**

Learning Objectives: 1. Identify the diagnostic conditions in patients with Parkinson’s Disease who are admitted with a change in mental status. 2. Discuss treatment approaches. Discussion: A patient in his 70s with Parkinson’s Disease, diagnosed five years ago, on levodopa-carbidopa was admitted medically after suffering a fall, in which he injured his hip and shoulder. He has a past psychiatric history of OCD, depression, social anxiety and PTSD, treated with clomipramine, quetiapine, and fluoxetine, and a past medical history of lymphoma, HTN, DM, and HLD. Psychiatry was consulted for acute onset of hallucinations and delusions after being restarted on lamotrigine, an old medication. CT head on arrival was negative for any acute intracranial events. He was AAOX2, calm and

cooperative, no hallucinations or delusions of assessment, diminished recent memory, and poor attention. He has a history of delirium with hallucinations attributed to either his levodopa-carbidopa or his fluctuating glucose levels. The patient had no recent changes made to his levodopa-carbidopa dose. Prior to the patient’s admission, his outpatient psychiatrist was focused on managing the patient’s OCD and anger issues, which had progressed. At his first outpatient visit, his lamotrigine was increased from 50mg to 100mg daily, which he stopped taking due to a reported adverse effect of hypnagogic hallucinations. It was unclear if the patient’s fluoxetine was effective and was subsequently started on clomipramine 75mg PO daily for his OCD symptoms, with a plan to taper off fluoxetine. The patient was continued on quetiapine at 150mg PO daily for psychosis. While hospitalized, the patient continued his home dose of psychiatric medications, was optimized medically, and his mental status and QTc were monitored. Conclusion: Approximately sixty percent of patients with Parkinson’s Disease develop psychosis. Potential causes of psychosis in this population include infection, dehydration, metabolic abnormalities, and medications. Other triggers include changes in sleep, environment, or nutrition. Treatment approaches include general measures such as re-establishment of circadian rhythms and environment, addressing coexisting medical conditions, and reducing the use of anticholinergic, antihypertensive, and sedating drugs. Tapering anti-parkinson medications may be considered. Clozapine and quetiapine have low D2-receptor affinity and have shown to improve psychotic symptoms without worsening movement symptoms. Typical antipsychotics should be avoided as they may worsen motor symptoms. In 2006, AAN guidelines identified the need for a new antipsychotic without dopamine antagonist effects. As a result, Pimavanserin, an atypical antipsychotic, was developed and approved for the treatment of hallucinations and delusions in PD-associated patients.

#### **No. 60**

##### **Treatment of Urinary Retention in Geriatric Patients Presenting With Catatonia: A Case Series**

*Poster Presenter: Monica Parmar, M.B., B.A.O.*

*Co-Author: Tim Lau, M.D., M.Sc.*

**SUMMARY:**

Introduction: Various studies suggest that catatonia is an underdiagnosed medical condition with an incidence ranging between 5-20% of all psychiatric admissions. Two studies have demonstrated similar rates in hospitalized elderly patients. When catatonia is not diagnosed promptly, treatment of the condition and the associated complications is delayed. One such complication is urinary retention. Urinary retention can result in prolonged catheter use. In geriatric populations, catheters limit patient mobility, are potential sources for infection, and increase the risk for delirium. In fact, catheter use has been independently associated with increased mortality in nursing home settings. Objectives: 1. To describe clinical cases of urinary retention associated with catatonia, in the geriatric population. 2. To illustrate the successful use of electroconvulsive therapy (ECT) in treating catatonia and the associated urinary retention. Methods: Inclusion criteria: admission to inpatient geriatric psychiatry unit, confirmed diagnoses of catatonia and urinary retention, and completion of ECT treatment. Appropriate medical workup was completed to rule out other pathologies. Depending on the presentation, some investigations involved physical exams, laboratory investigations, microbiology and toxicology investigations, and/or radiological investigations. Patients were excluded from study if diagnosed with delirium, or if alternative causes for urinary retention were detected. Each patient's post-void residual (PVR) volumes were measured during the course of ECT treatments. Illness severity was also measured during the course of ECT treatments, using the Montgomery-Asberg Depression Rating Scale (MADRS). This study received research ethics board approval. Consent from the involved parties was obtained. Results: This study involved three males and one female, ranging from 66-84 years old. All four patients had an underlying diagnosis of major depressive disorder. At admission, each patient presented with urinary retention and PVR volumes for all patients ranged from 569-1400 mL. MADRS scores ranged from 40-56, indicating severe illness in all patients. Each patient completed ECT treatment, ranging from 14-19 treatment sessions. After ECT completion, each patient achieved full resolution of their catatonic

symptoms. All four patients were noted to have PVR volumes ranging from 6 to 75 mL, thereby suggesting resolution of urinary retention. There was no recurrence of elevated post-void residual volumes in these four patients. Post-treatment, the MADRS scores ranged from 3 to 16, indicating a mild or subthreshold index of illness. Conclusion: As patients completed ECT (as a treatment modality for catatonia), simultaneous resolution of urinary retention was noted. There are no prior reports of catatonia-related urinary retention in geriatric populations. Treating urinary retention promptly is important as it can reduce complications especially in elderly populations.

**No. 61****Delusional Disorder in the Context of Adverse Childhood Experiences (Aces) and Sexual Abuse**

*Poster Presenter: Akhila Boyina*

*Co-Author: Samantha Ongchuan Martin, M.D.*

**SUMMARY:**

**Background** Children with ACEs have a significantly higher likelihood of developing mental health concerns in a dose dependent response [1]. Literature has shown that participants who have experienced sexual assault have a higher rate of psychotic phenomena, often times with content specific to the trauma [2][3]. We describe a patient with delusional disorder and prior sexual abuse displaying new onset aggressive behavior. **Case Report** AS is a 37 – year – old female with history of psychogenic non-epileptic seizures, delusional disorder, cannabis use disorder, and anxiety who presented to the ED after threatening her brother with a hammer as she thought he had sexually assaulted his son. Collateral collected after admission revealed increased paranoia regarding being watched, having her phone tapped, having her house broken into and more for the past 6 months. She also had paranoid delusions concerning younger relatives being inappropriately touched by adults. After initiation of risperidone 1 mg, AS endorsed improved mood and sleep. Given AS's presentation and history, the dose of risperidone was maintained and will be followed outpatient. **Discussion** AS's delusions were most likely framed by her processing of her ACEs. As a child who suffered sexual assault,

AS was predisposed to having psychotic symptoms [1]. The delusion surrounding safety of children and sexual assault started after the birth of AS's daughter 6 years ago. AS suffered sexual assault and neglect as children. Gracie et al. suggest that trauma induces a negative concept of self and others and dissociative symptoms which can predispose an individual to paranoia and psychosis [4]. A contributing factor to AS's paranoia is her cannabis use. Childhood sexual assault severity is associated with greater use of substances [2]. Ullman et al expressed that interpersonal trauma decreases reliance on social support, resulting in increased substance use and other maladaptive coping mechanisms [5]. Although AS's paranoid delusions started 6 years prior, they accelerated after starting cannabis use. While in the hospital, AS did not have any symptoms of paranoia or psychosis. This could be due to the lack of triggers around her such as young children or cannabis. **Conclusion** Children who experience sexual abuse often do not come to the attention of services and authorities [2]. Sexual abuse as a child is considered an ACE. Lack of support and opportunity children often prevents them from being able to process this trauma. Thus, sexual abuse is an ACE that can lead to psychiatric disturbances such as psychosis. Clinicians should be aware of the psychiatric ramifications of ACEs, especially sexual abuse and other insidious experiences, so that further morbidity may be prevented. In conclusion, helping children cope with ACEs such as sexual abuse is a worthy target for effective mental illness prevention and should be a public health priority [6].

## No. 62

### **The Effect of Societal Unrest on Mental Health in the Military: Systematic Review and Discussion**

*Poster Presenter: Zachary Robert Arnold, M.D.*

*Co-Authors: Alexander Rahimi, Joshua Hamilton, M.D., Judy Kovell*

#### **SUMMARY:**

Global and national tragedies exert profound effects and can often lead to an increased prevalence of mental illness.<sup>27</sup> In 2020 and 2021 the United States faced multiple national crises to include the COVID-19 pandemic, the January 6<sup>th</sup> Capitol riot, and the

protests surrounding the death of George Floyd. In the early months of the COVID-19 pandemic, there was initially a decrease in US emergency department (ED) visits for mental health, followed by a subsequent increase in ED visits, including those for suicide attempts.<sup>27</sup> This trend reflects past research on natural disasters and suicidal behaviors, suggesting mental health needs in crises are likely dynamic.<sup>28</sup> There is a paucity of research on these effects on the military community. This poster examines the relationship between societal unrest and mental health care in the military. Methods: EBSCO, PubMed, Embase, and PsychINFO were queried using the following search terms: societal unrest (crisis, disaster, political unrest, national tragedy), military population (army, air force, navy, veterans, military personnel), and mental health (mental health utilization, behavioral health utilization, mental health, behavioral health). Results: The initial query yielded 277 articles. These articles were screened for articles that examined the effect of societal unrest in the military population (active duty, veterans, and family members) and subsequent effect of mental health. 26 articles met these criteria. Only one study looked at US military family mental health needs, but no articles discussed active-duty U.S. military. No articles were found on subjects of political unrest for the events of 2019-2020. For nations that did have articles on active duty service members, the initial months of COVID-19 were mixed with some showing resilience but a number noted increased levels of stress and need for support especially as the pandemic progressed.<sup>5-7, 11-13, 22,26</sup> For the Veteran population, one article noted that early monitoring of symptoms did not demonstrate appreciable change in mental health.<sup>25</sup> However, several longitudinal studies showed worsening of symptoms from anxiety, depression, substance use, or PTSD, in the context of isolation due to the pandemic.<sup>11,17, 18, 21, 23</sup> Veterans who have survived COVID-19 and have premorbid psychiatric symptoms may be at increased risk for suicidality.<sup>20</sup> Conclusions: The evidence suggest societal unrest and tragedies cause an increase need for mental health services for both active duty service members and veterans. However, there is limited research in the active duty U.S. military population with societal unrest. Further research is needed to examine this relationship and mental health care needs.

Disclosure: The views expressed in this abstract are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the US Government

#### No. 63

##### **The Relationship Between Self-Reported Physical Health and Self-Reported Measures of Malignant Self-Regard and Indices of Psychopathology.**

Poster Presenter: Robert Franklin Wilson, M.D.

Co-Authors: John Lotfi, M.D., Meena Azizi, M.D.

#### **SUMMARY:**

**Title:** The relationship between self-reported physical health and self-reported measures of malignant self-regard and indices of psychopathology. **Introduction:** There exists a complex relationship between physical and mental health. Several psychiatric assessment tools have been created which can allow researchers to further quantify this relationship. One such assessment tool includes the Malignant Self-Regard Questionnaire-Short Form, which assesses concept of malignant self-regard, which includes thought processes involving poor self-esteem, hypersensitivity towards criticism, and propensity towards depressed mood (MSR-SF; Huprich, 2011). The second psychiatric assessment tool includes which measures of internalizing and externalizing spectrum problems, general psychopathology, and psychosocial functioning known as the SPECTRA: Indices of Psychopathology (Blais & Sinclair, 2018). **Methods:** 185 patients in a cardiology outpatient office were consented and complete a packet of questionnaires. As part of that packet they completed the Malignant Self-Regard Questionnaire-Short Form (MSR-SF; Huprich, 2011), and the SPECTRA: Indices of Psychopathology (Blais & Sinclair, 2018). They also completed an item asking them "In general, would you say your health is currently..." and they could answer in Likert-style format where 1 (excellent) to 5 (poor). **Results:** Results revealed that ratings of current health were correlated ( $r = 0.23$ ,  $p < 0.01$ ) to self-reported scores on the Malignant Self-Regard-SF total score (where higher scores are more pathological) and self-reported scores on the SPECTRA scales of internalizing problems ( $r = 0.33$ ,  $p < 0.001$ ), externalizing problems ( $r = 0.01$ ,  $p = 0.99$ ),

general psychopathology index ( $r = 0.28$ ,  $p < 0.01$ ), and psychosocial functioning ( $r = 10.32$ ,  $p < 0.001$ ).

**Discussion:** Our results show that reports of general health are related to less psychopathology in general. We found that the externalizing problems was not correlated to the reports of current health and this may be because those who score high on externalizing problems (e.g., those who have antisocial personality, high on aggression, substance use problems) are not always the most insightful into their own functioning and may not be the most accurate reporters. **References:** Blais, M.A., & Sinclair, S.J. (2018). *SPECTRA: Indices of Psychopathology*. Psychological Assessment Resources (PAR). Huprich SK, Macaluso M, Baade L, Zackula R, Jackson J, Kitchens R. Malignant Self-Regard in clinical outpatient samples. *Psychiatry Res*. 2018 Aug;266:253-261. doi: 10.1016/j.psychres.2018.03.005. Lengu, K. J., Evich, C. D., Nelson, S. M., & Huprich, S. K. (2015). Expanding the utility of the malignant self-regard construct. *Psychiatry Research*, 229(3), 801–808. <https://doi.org/10.1016/j.psychres.2015.07.087>

#### No. 64

##### **Leveraging Resident Training in the U.S. to Provide Mental Health Care in a Middle-Income Country**

Poster Presenter: Gabriela Ruchelli, M.D.

Co-Authors: Maria Vasconez, Shari Jardine, John Young

#### **SUMMARY:**

Background: Resident training in global health has been severely limited by the COVID-19 pandemic. By the same token, the COVID-19 pandemic has acutely worsened depression, anxiety, and PTSD in much of the world, and has further limited access to care.1 This initiative has built on a pre-existing relationship between Northwell Health, an academic medical center in New York, the Universidad San Francisco de Quito, a private university in Quito, Ecuador, and the public health centers of the metropolitan district of Quito to address both needs. **Methods:** Patients are screened by the local psychologist with instruments measuring anxiety and depression. Patients with Beck Anxiety Index over 26, Beck Depression Index over 29, CORE 34 over 21, those who do not demonstrate significant improvement

over consecutive psychotherapy sessions, those who previously had psychopharmacological treatment or psychiatric treatment, or patients with suicidal ideation are referred for psychiatric consultation with the psychiatric resident. The telepsychiatry appointment is scheduled by the local coordinator and conducted over Zoom. For those patients without access to adequate internet services, the telepsychiatry appointment is arranged at the local health clinic. Patients are seen for a 45-minute consultation and recommendations are provided to the local psychologist and primary care physician for medication and follow-up. Medication management is provided by the local team unless psychiatric follow-up is required. Results: To date, 48 patients have been seen for psychiatric consultation. 64.5% of patients were female. Ages ranged from 13 to 74 years old. Referrals included 13 patients with major depressive disorder (F32), 10 patients with generalized anxiety disorder (F41.1), 13 patients with mixed anxiety and depressive disorder (F41.2), 2 patients with personality disorders (F60), 2 patients with schizophrenia (F20), 1 patient with alcohol dependence and cannabis dependence (F10.2, F12.2), and other diagnoses. 40 patients were recommended to start or increase psychiatric medication. 2 patients were referred for inpatient psychiatric admission. 6 patients were seen for one psychiatric follow-up visit and 1 patient was seen for two psychiatric follow-up visits. Conclusions: This initiative has provided access to psychiatric care for patients in the rural public health sector of Quito, Ecuador. Patients who previously had to wait upwards of 3 months for psychiatric care can now receive a consultation with 1-2 weeks of referral. It has also significantly advanced a 3-year-old global mental health program. Future directions include building out a scalable model of collaborative care in this global mental health setting, and a resident-led optimization of training of local clinicians within this context.

#### **No. 65**

##### **Brief Psychosis After COVID-19 Infection**

*Poster Presenter: Kareem Seoudy, M.D.*

*Co-Authors: Nassima Ait-Daoud, M.D., Gabriela S. Pachano, M.D.*

#### **SUMMARY:**

**Background** In December 2019, the novel coronavirus (SARS-CoV-2) infection was first reported in Wuhan city, central China, which has since spread globally. The common clinical features of patients with SARS-CoV-2 infection included fever, fatigue, and damage to the respiratory or digestive system. However, it remains unclear whether SARS-CoV-2 infection could affect the central nervous system (CNS) inducing psychiatric symptoms. **Case Report** This is a case of a 46-year-old male with no previous psychiatric history who presented to the emergency department with decreased sleep, olfactory, auditory, and tactile hallucinations, psychomotor agitation, paranoia, increased energy, pressured speech, elevated affect, and tangential thought process over a week after being diagnosed with symptomatic COVID-19. In the ED he tested negative and was asymptomatic for COVID-19. He was admitted to the inpatient psychiatry unit and subsequent brain MRI, EEG, and lumbar puncture did not reveal any concerning organic causes. His symptoms improved after treatment with olanzapine 5 mg nightly during admission and after discharge. He was seen in clinic for follow-up 2 weeks after discharge. The dose was lowered to 2.5 mg nightly and eventually discontinued, as patient had returned to his baseline without further manic or psychotic symptoms. He also had no recollection of the events on admission. Given that the patient had no past personal or family history of any psychiatric condition, no history of substance use with a negative urine drug screen on admission, and experienced rapid resolution of his symptoms after treatment with olanzapine with no recurrence of symptoms after tapering olanzapine, the most likely diagnosis is mania due to COVID-19. **Conclusion** Several other cases of psychosis related to COVID-19 infection in patients with no previous psychiatric history have been described. This case highlights the further need for investigation and consideration of the neuropsychiatric effects of COVID-19, including in those who have recovered and no longer test positive on COVID-19 PCR, highlighting the possibility of lingering effects on the brain after recovery from symptoms.

No. 66

**Neurobiological Underpinnings of Clozapine-Induced Sialorrhea**

Poster Presenter: Ashish K. Sarangi, M.D.

Co-Author: Wail Amor, M.D.

**SUMMARY:**

Background Despite being the first atypical antipsychotic, clozapine is still considered the most effective treatment to manage treatment-refractory schizophrenia (TRS). Clozapine is also the only antipsychotic medication with anti-suicidal effects. However, clozapine's use is limited by multiple adverse effects, including agranulocytosis, sialorrhea, sedation, weight gain, and seizures. Sialorrhea is the second most problematic adverse effect reported in a wide range of clozapine-treated patients (i.e., 30-80%) due to its association with medication nonadherence, stigmatization, social isolation, lower self-esteem, and quality of life<sup>1</sup>. In addition, nighttime drooling impairs oral hygiene to cause halitosis, interrupts sleep, and increases the risk for parotitis and aspiration pneumonia<sup>2</sup>. Therefore, the management of clozapine-induced sialorrhea (CIS) should be one of the top priorities to improve medication adherence and overall treatment outcomes. This review discusses different pathophysiological mechanisms underlying CIS to develop effective treatment strategies for CIS. Methods A comprehensive search on Ovid Medline database, APA PsycINFO, and PubMed were conducted to identify all articles including search terms: (("Drooling" OR "Sialorrhea") AND ("Clozapine" OR "Neurobiology" OR "Muscarinic" OR "Adrenergic" OR "Norclozapine")). Search results were limited to "English language" and "Human subjects." Unrelated articles were excluded after the initial review. Results The search yielded 707 studies, of which 62 fulfilled the eligibility criteria of sialorrhea with clozapine treatment. Most reviewed literature supported a central role of clozapine's differential muscarinic receptor activity in causing CIS. Discussion The most frequently reported neurobiological mechanism underlying CIS is clozapine's contrasting action as an antagonist at muscarinic receptor subtypes 1-3 and 5 and an agonist at the muscarinic receptor subtype 4. There is some evidence for noradrenergic blockade contributing to hypersalivation<sup>3</sup>. Still, current

literature lacks adequate investigation of other potential mechanisms that may play a role in CIS, including the differential muscarinic blockade between clozapine and its biologically active metabolite, norclozapine<sup>4</sup>. Future research is needed to explore the neurobiology of CIS further to develop effective treatment strategies.

No. 67

**Refractory Mania Post-COVID-19 Infection Responsive to Clozapine**

Poster Presenter: Emma Charlotte Cooper, M.D.

Co-Authors: Vedang S. Uttarwar, M.D., Alexis Seegan, M.D.

**SUMMARY:**

**Background:** Currently, there is robust evidence for the treatment of mania with lithium, valproate, carbamazepine and seven FDA approved antipsychotic medications: aripiprazole, asenapine, cariprazine, olanzapine, quetiapine, risperidone, and ziprasidone <w:sdt docpart="36B90A4833259C448E5CD65A96A79180" id="2045941475" sdttag="MENDELEY\_CITATION\_v3\_eyJjaXRhdGlvbkIEljoitUVOREVMRVIfQ0IUQVRJT05fYjU4NjE4MWMtZTlxYi00ODg2LWEyYzUtZGRiNGM3MjQ0MGZmlwiY2I0YXRpb25JdGVtYcyI6W3siaWQiOiIwNDJkZjYwNi1MTJjLTM5MDMtYWlxMS03OTdiMDAzZjc1NDUuIlCjpdGVT RGF0YSI6eyJ0eXBlljoiYXJ0aWNsZS1qb3VybmFslwiiaWQiOiIwNDJkZjYwNi1MTJjLTM5MDMtYWlxMS03OTdiMDAzZjc1NDUuIlCj0aXRsZSI6IkNvbXBhcmF0aXZlIEV mZmVjdGI2ZW5lc3MgUmV2aWV3IE51bWJlciAyMDg gVHJlYXRtZW50IGZvciBCaXBvbGFyIERpc29yZGVyIGlu IEFkdWx0czogQSBTeXN0ZW1hdGllJlJldmldYsImF1d Ghvcil6W3siZmFtaWx5ljoiqnV0bGVyYiwZ2I2ZW4iOiI NYXJ5liwicGFyc2UtbnFtZXMiOmZhbHNILCJkcm9wc GluZy1wYXJ0aWNsZSI6IiIsIm5vbi1kcm9wcGluZy1wY XJ0aWNsZSI6Ii9LHsiZmFtaWx5ljoiqnV25lemFuYSBVcm 9zZXZpYyIsImdpdmVuljoitWJhliwicGFyc2UtbnFtZX MiOmZhbHNILCJkcm9wcGluZy1wYXJ0aWNsZSI6IiIsI m5vbi1kcm9wcGluZy1wYXJ0aWNsZSI6Ii9LHsiZmFta Wx5ljoiqnVHJpeWFua2EgRGVzYWkiLCJnaXZlbi1kxQli wicGFyc2UtbnFtZXMiOmZhbHNILCJkcm9wcGluZy1 wYXJ0aWNsZSI6IiIsIm5vbi1kcm9wcGluZy1wYXJ0aW NsZSI6Ii9LHsiZmFtaWx5ljoiqnV2NvdH0gU3BvbmlhlaW 0iLCJnaXZlbi1k1lUCBSliwicGFyc2UtbnFtZXMiOmZh bHNILCJkcm9wcGluZy1wYXJ0aWNsZSI6IiIsIm5vbi1k

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on thiorazine 250mg TID and lithium 1200mg QHS; however due to ongoing volatile behavior he was transitioned to clozapine 50mg BID, zyprexa 10mg TID, lithium 1500mg qhs, and ativan 2mg TID. Clozapine was discontinued following concern for clozapine-induced myocarditis which resulted in significant decompensation. Clozapine was re-started which resulted in clinical improvement. He was stable for discharge on Lithium 1500mg QHS, Clozapine 200mg QHS, and Ativan 2mg BID. *Case 2:* Mr. B is a 23 year old male with diagnosis of schizoaffective disorder and OCD who presented to ED brought in by his grandmother for hitting his head on the floor and anxiety, also found to be COVID+ and asymptomatic. He was admitted to the medical floor for the standard 10 day quarantine. He was then admitted to the psychiatric unit for increasing psychosis and symptoms of mania including impulsivity, decreased need for sleep, and racing thoughts. He was initially restarted on his home regimen of aripiprazole 15mg, fluvoxamine 200mg QAM and 100 mg QHS, olanzapine 10mg QAM and 5mg QHS. Over the course of hospitalization, he was trialed on Abilify, Paliperidone, Zyprexa, Ativan, Luvox, Haldol, and Depakote. Despite intervention, his condition continued to worsen in terms of impulsivity (such as disrobing and running into the milieu) which at times threatened his own personal safety. He was eventually started on Clozapine, titrated to an ultimate dose of 300mg QHS while other antipsychotics were discontinued, which led to an improvement in his symptoms. He was stable for discharge on Clozapine 300mg qHS and Zoloft 50mg qD for OCD. **Conclusion:** Clozapine may be an effective therapy for patients presenting with refractory mania post-covid-19 infection.

#### **No. 68**

#### **Too Much Too Fast: Challenges in the Initiation and Titration of Lithium in Patients With Bipolar Disorder**

*Poster Presenter: Sung Min Ma, M.D.*

*Co-Authors: Erin O'Keefe, B.S., Junghyun Lim, Edmi Cortes Torres*

#### **SUMMARY:**

Mr. M., a 38-year-old white male with bipolar II disorder, presented to the clinic. Although he was in remission from major depressive and hypomanic episodes, he described intermittent episodes of mood dysregulation with anxiety. The patient was not on any psychotropics because he either disliked the previous medications or failed to tolerate them. The prior medications included lamotrigine (rash), valproic acid (over-sedation), quetiapine (over-sedation), and multiple serotonin-reuptake inhibitors ("weird sensations"). The patient initially disliked the idea of starting lithium due to its association with severe mental illness. He also preferred not to be treated with any psychotropics for mood. After much explanation on how lithium is a naturally occurring element and what its potential side effects are, the patient agreed to start lithium. However, the patient started to experience significant gastroenterological side effects, such as nausea, vomiting, and loss of appetite, at the initial total daily dosage of 600 mg. The patient self-discontinued lithium for 5 days during which side effects subsided, and was re-initiated at nightly dosage of 300 mg. The dose was gradually increased to nightly 1200 mg (lithium level: 0.6 mEq/L) over 2 months. The patient reported improvement in his mood and anxiety with lithium and no longer experienced side effects with slow titration. This clinical case highlights some of the challenges encountered in the initiation and titration of lithium. In the United States, only about 10–20% of patients with bipolar disorder are treated with lithium (1). Considering that lithium – due to its high efficacy in treating both acute mania and depression as well as reduction of the recurrence of mood episodes – is regarded as the gold standard in treatment of bipolar disorder, the low utilization of lithium is puzzling (2). Some providers may encounter the patients' hesitance on starting lithium due to their preconceived notions influenced by the medication's portrayal in media. For instance, patients may associate lithium with severe, debilitating mental illness. When the medication is initiated, medication adherence may be challenging due to side effects. Further, providers may hesitate to start lithium due to its narrow therapeutic index and the risk of kidney failure. These multifaceted challenges may contribute to the low utilization of lithium in

treatment of bipolar disease. Oftentimes, patients with bipolar disorder are started on lithium twice-daily dosing (e.g. 300 mg twice daily). However, a slow titration of lithium with once-daily dosing at nighttime may be preferred in the outpatient setting (3). This titration strategy may not only limit side effects such as nausea and polyuria, but also minimize the risk of kidney injury and improve medication adherence (4).

#### **No. 69**

##### **Music and the Manic-Depressive: When Creativity Becomes Pathological in Military Musicians**

*Poster Presenter: Zachary Dace Brooks, D.O.*

*Co-Authors: Chelsea R. Youngmans, M.D., Michelle Hornbaker-Park, M.D.*

#### **SUMMARY:**

Those with significant creative and artistic talents have historically described an otherworldly state they travel to when performing or when inspired. A recent popular Disney movie even used this idea in a story about a jazz performer. Unfortunately, there are a subset of individuals where this break from the present world may be pathological instead of enjoyable. Mrs. A & Mrs. B were two active-duty military musicians who presented to the inpatient psychiatry service within a few months of each other, both with new onset of mania. Both patients were married females in their mid-30s without children. Each had prior history of depression but without manic episodes. After their medical workups were fairly unremarkable, a diagnosis of bipolar I disorder was made in both patients. While it has long been hypothesized that there is a correlation between creativity and mood disorders, these two case reports provide us with the opportunity to review the current literature for data which supports this proposed correlation. Using these cases as an anchor, we explore the relationship between bipolar disorder and how people with this diagnosis understand and experience creativity. We will also discuss the possibility of a missed diagnosis of a patient with bipolar disorder, or prodromal state leading to a manic episode, due to the patient's symptoms resulting in better performance in their line of work. Bipolar disorder is a life altering diagnosis for multiple reasons, particularly relevant

for our patients was the concern that certain treatment options may decrease their perceived creative capability. In this poster we discuss the cases of two military musicians with new-onset mania and review the literature regarding correlation between creativity and bipolar disorder.

#### **No. 70**

##### **Sexuality, Senescence, and a Subdural Hematoma: The Challenges of Managing Aggressive and Hypersexual Behaviors in Patients With Dementia.**

*Poster Presenter: Zachary Dace Brooks, D.O.*

*Co-Authors: Jon Kristian Lindefjeld, M.D., M.Sc., Sakirat Akadri, M.D., Shannon Ford, M.D.*

#### **SUMMARY:**

Mrs. S., a Central American woman in her 60s with a past medical history of cerebral amyloid angiopathy, Alzheimer's dementia and APP mutation presented to the ER with increasingly hypersexual and violent behavior over a period of four days culminating in threats to castrate and kill her husband. She required multiple emergency medications in the emergency room for aggression towards staff and on imaging was found to have a large chronic subdural hematoma in the right fronto-parietal distribution. The Consult Liaison Psychiatry service was involved throughout the patient's admission for recommendations to assist in managing the patient's behaviors while the internal medicine team addressed the patient's underlying medical conditions. The patient required significant collaboration between the two services in order to get appropriate care. In this poster, we discuss the unique challenges of managing aggressive & hypersexual behaviors in patients with dementia, particularly when coinciding medical conditions manifest as delirium on top of patients' baseline neurocognitive dysfunction. This is a strong learning case when discussing the differential diagnosis and workup for altered mental status. It is also unique because most tools assessing disinhibition in dementia do not capture sexual disinhibition, sexual aggression, or sexual violence. Uncontrolled sexual behavior in dementia is less common than other problems with approximately 0.5% of literature on dementia focusing on uncontrolled sexual behavior with no agreed definition on when sexual behavior is

inappropriate. In this case, the patient had delirium on chronic dementia with paranoia and hypersexuality as well as epileptic seizures. This case also reviews cultural and family priorities that, if optimized, will help keep family members with dementia, agitation, and ongoing delirium at home for as long as safely possible.

**No. 71**

**Koro Symptoms in a 71-Year-Old Hispanic Male.**

*Poster Presenter: Daniel Michael Tuinstra, M.D.*

*Co-Author: David Lyon*

**SUMMARY:**

We present the case of a 71-year-old Hispanic male in the Midwestern United States with no previous psychiatric history, presenting with Koro-like symptoms including fear of imminent death due to the belief that his penis was retracting into his abdomen, thus requiring admission to a psychiatric inpatient unit. To our knowledge, this is the first time this classically, culture-bound phenomenon has been recorded in a Hispanic male. Our discussion focuses on comparing this case to other Koro and Koro-like cases outside of the described cultural Southeast Asian region. We also discuss transcultural psychiatric insights related to Koro and highlight the variety of reported neuropsychiatric contexts of Koro-like symptoms as applicable to this case.

**No. 72**

**A Case of Initial Psychotic Presentation in a Geriatric Patient Post-Acute Subdural Hematoma.**

*Poster Presenter: Michaela Margolis, D.O.*

*Co-Authors: Alesia Antoine, Helen Yi, M.D.*

**SUMMARY:**

Patient is a 74 y/o male with no previous history of psychosis, admitted to an inpatient psychiatric unit for depression. While on the unit, the patient began to exhibit agitation, auditory hallucinations, and paranoid delusions. The patient's clinical presentation led to a diagnosis of Psychotic disorder not otherwise specified (PNOS) and a regimen of antipsychotics and benzodiazepines were administered. Neuroimaging, done to rule out organicity and a result of nonresponse to medications, revealed a bilateral cerebral convexity

subdural hematoma. This case highlights a psychotic presentation, in the absence of any neurological deficit, following a traumatic brain injury that occurred in the period of post-traumatic confusion and agitation. This poster discusses a psychotic presentation in the presence of a subdural hematoma, the need for persistent review of diagnosis, application of clinical clues such as adverse effects and poor response, and appropriate investigation in guiding diagnosis and treatment.

**No. 73**

**Neurological Sequelae of the COVID-19 Pandemic**

*Poster Presenter: Denis Keljalic*

*Co-Author: Aidaspahic S. Mihajlovic, M.D., M.S.*

**SUMMARY:**

**Neurologic Sequelae of the COVID-19 Pandemic**

*Denis Keljalic, Aida Mihajlovic Rosalind Franklin*

*University of Medicine and Science Chicago Medical*

*School (Keljalic, Mihajlovic), University of Illinois*

*Chicago College of Medicine (Mihajlovic)*

In December 2019, cases of a unique viral pneumonia

began rising in Wuhan, China. The infective agent

was found to be Coronavirus disease 2019 (COVID-

19). Since then, approximately 200 million people

worldwide have tested positive for this virus with

just under 4.3 million deaths. Although the initial

clinical descriptions of this virus consisted mainly of

respiratory symptoms, over the past 1.5 years, we

have learned much about COVID-19, including the

neuropsychiatric complications that may arise.

Recent research has suggested that COVID-19 is a

neuroinvasive agent, likely entering the central

nervous system through angiotensin converting

enzyme 2 receptors. Delirium, anosmia, hypogeusia,

depression, anxiety, headache, cerebrovascular

incidents, psychosis, are some of the many sequelae

that have been noted. Risk factors include ICU

admission, female sex, previous comorbidities,

professions in the healthcare field, and severity of

symptoms. It is essential that patients with

neuropsychiatric manifestations of COVID-19 attain

proper healthcare. As economic uncertainty, social

distancing, vaccines, and masks dominate the

cultural landscape, healthcare providers are being

bombarded with many patients experiencing

neuropsychiatric symptoms. Continued research

needs to urgently be undertaken to further expand our knowledge regarding the neuropsychiatric manifestations and treatment of COVID-19. Promising advancements are under way, including anticipatory symptom screening, and novel pathophysiological theories, but more still needs to be done to ensure prompt and effective treatment of patients. This should include efforts to distinguish what symptoms occur due to the virus itself, versus the symptoms that occur due to the social situations the pandemic puts individuals in. In this poster, we will discuss the leading hypotheses regarding the pathophysiology of neuropsychiatric symptoms, as well as the most common neuropsychiatric findings. We will also discuss efforts to categorize neuropsychiatric symptoms, and how this could lead to improved screening and treatment

#### **No. 74**

##### **Psychosis Secondary to Prodromal COVID-19 Infection**

*Poster Presenter: Faiz M. Hasan, M.D.*

*Co-Authors: Clarisa V. Atencio, M.D., Venkatesh Sreeram, M.D.*

#### **SUMMARY:**

Purpose: To report a case of persistent psychosis related to post-COVID infection. Case Summary: Prior studies have suggested that some individuals experience neuropsychiatric symptoms as result of coronavirus disease 2019 (COVID-19) infection. This case describes a 58-year old woman with no prior psychiatric history who developed new-onset psychosis following COVID-19 infection, without the hallmark of respiratory symptoms including fever, cough, and shortness of breath associated with the novel virus. The patient was brought in by EMS activated by family with complaints of altered behavior for one week with multiple episodes of vomiting (greater than 10) and suspected COVID infection; despite two previous negative COVID tests, patient had COVID19 antibodies elevated at 89. Medical work-up significant for altered mental status, hyponatremia with sodium level 130, and tachycardia. Patient was admitted to medicine services and upon medical stabilization, patient was transferred to inpatient psychiatric unit due to persistent psychotic symptoms with prominent

visual hallucinations and persecutory delusions. Her COVID-19 test on admission was negative, and all potential etiologies for psychosis were ruled out. She was effectively treated during inpatient psychiatric hospitalization with low-dose Olanzapine 5mg oral at bedtime, followed by outpatient care. While factoring for variables such as family history of mental illness, and psychosocial stressors, the patient's presentation and circumstances suggest that the resultant neuropsychiatric manifestation is most likely contributed due to COVID-19 infection. Conclusion: This case highlights the unpredictable nature of novel COVID-19 virus and subsequent sequelae. Further research is necessary to identify individuals at risk of experiencing neuropsychiatric symptoms as result of COVID-19 infection and the prognosis.

#### **No. 75**

##### **Aripiprazole-Induced Impulse Control Disorder in a Pediatric Patient**

*Poster Presenter: Komal K. Trivedi, D.O.*

*Lead Author: Angelo Sica, M.D.*

*Co-Author: Lauren Kaczka-Weiss*

#### **SUMMARY:**

Aripiprazole is a highly effective and frequently utilized medication in treating agitation seen in Autism Spectrum disorder, psychosis, mood stabilization, and augmentation of MDD and OCD. Aripiprazole represents a third-generation antipsychotic due to its unique pharmacological profile, having partial agonist properties at the D2, D3-dopamine, and 5-HT<sub>2</sub> serotonin receptors. Due to its ability to promote a hyperdopaminergic state in the mesolimbic reward system, the US Food and Drug Administration (FDA) in 2016 issued a safety warning suggesting an association between the use of aripiprazole and uncontrollable urges to gamble, binge eat, shop, and have sex which stopped when the drug was discontinued or its dose reduced. The spectrum of medication-induced impulse control disorders and behavioral addictions becomes relevant in the following case report of a 12-year-old patient who developed new compulsive eating and hoarding behavior upon rapid titration to higher doses of aripiprazole over one month. This pediatric patient's presentation was compounded by negative

social determinants, including a pre-existing traumatic brain injury with a resultant intermittent explosive disorder in the setting of chronic parental abuse, neglect, and repeated exposure to early life psychological trauma. The properties and interactions with various receptor systems of aripiprazole are examined to delineate further its effects on pathways underlying impulse control and addictive behavior in pediatric patients. When commencing a patient on aripiprazole, psychiatric providers should become aware of the possibility of emergent problematic gambling or other impulse-control issues. Frequent monitoring for these symptoms is recommended in patients with and without significant histories of similar impulse-related behaviors in addition to patients maintained on all doses of aripiprazole. Emphasis is on a judicious approach to prescribing aripiprazole to pediatric patients, such as in this case, given that this vulnerable population is known to be more susceptible to medication effects and adverse life experiences.

#### **No. 76**

#### **Botulinum Toxin a as a Dual Treatment for Comorbid Tourette Syndrome and Migraine Headaches: A Case Study**

*Poster Presenter: Hirsch K. Srivastava, M.D.*

*Co-Authors: Barbara Dyer, Muhammad I. Farhan, M.D.*

#### **SUMMARY:**

Ms. T is a 36-year-old caucasian woman with comorbid Tourette Syndrome (TS) and migraine headaches (MH) who presented for Botulinum Toxin A injections to treat both conditions. She was diagnosed with TS at age 17 and has since been struggling with persistent tics that occur near constantly. She states that her tics primarily include head tilting, head/body twisting, coughing, sniffing, eye-rolling, bruxism, jaw movement, clapping, sharp breathing, and shoulder shrugging. She also experiences vocal tics albeit less frequently than motor tics. Stress worsens her tic symptoms. Ms. T's MH were formally diagnosed in 5th grade and were associated with new prescription eyewear. They eventually disappeared but returned at age 16 and have persisted into adulthood. The MH are most

commonly triggered by muscle tightness especially in association with neck and back tics. Auras are inconsistent between MH. Before botulinum toxin A intramuscular treatment, MH frequency was 8-9 episodes per month. Botulinum toxin A treatment has relieved both TS and MH symptoms when administered every 90 days. The injections are administered in the standard fixed-site, fixed-dose 150U protocol with 5U into each corrugator muscle, the procerus, and bilaterally into the superior frontalis; 12.5U into each temporalis muscle, each splenius capitis muscle, and each occipitalis muscle; and 25U into each trapezius muscle. Additional injections are given in the shoulders and temporomandibular joint to help control the TS symptoms. This treatment offers Ms. T dual condition relief by reducing MH to once per month and reducing head and neck tics including teeth clenching, grinding, and shoulder shrugging, which act as a trigger for MH. As MH and TS are often comorbid, a single treatment for both should be pursued. Botulinum toxin A has been studied for the separate treatment of MH and TS and has been shown to be effective in both. This case demonstrates that botulinum toxin A is effective in treating both TS and MH and may reduce the incidence of MH triggered by head and neck tics. Other possible treatments have been studied to separately treat MH and TS including cannabinoids, fluoxetine, clonidine, and lithium. There is little evidence to support cannabinoids as a treatment for either TS or MH. Lithium treatment was inconclusive for both TS and MH due to small study sizes and disagreement in conclusions. Clonidine has been found to be useful in MH prophylaxis and TS symptomatic relief. While this case demonstrates promise for the potential of botulinum toxin A as a treatment for comorbid TS and MH, more robust research is needed. As of this writing, botulinum toxin A appears to be an effective and safe treatment for comorbid TS and MH. This poster aims to add clinical case data to the existing literature about the use of botulinum toxin A for both TS and MH separately, as well as present a novel case of a single intervention providing effective treatment for two separate conditions.

**No. 77****Management of Acute Mania in Patients With COVID-19 on Medical Floors: Pearls and Pitfalls**

*Poster Presenter: Tyler Thompson*

*Co-Authors: Amir Gassemi, M.D., Sahil Munjal, M.D.*

**SUMMARY:**

Title Management of Acute Mania in Patients with COVID-19 on Medical Floors: Pearls and Pitfalls  
Background Psychiatric emergencies in patients with COVID-19 place a unique burden on the healthcare system. Many of these patients are treated on medical floors with psychiatry consultation, posing infection risks to staff and patients. There is sparse literature on management of COVID-19 patients with acute mania on medical floors. Case Patient is a 51-year-old male with Bipolar 1 Disorder who presented with aggressive behavior and symptoms of mania due to medication non-adherence. Given the patient's presentation and collateral, the patient needed inpatient level of care. However, he tested positive for COVID-19 even though asymptomatic and was transferred to a general medicine unit per hospital guidelines. Due to patient's level of agitation, homicidal threats to staff, and intermittently leaving his room and potentially exposing others to COVID-19, the patient was treated aggressively with a regimen that consisted of ziprasidone, divalproex sodium, quetiapine, and lorazepam to address patient's mania and the associated aggression and agitation. Discussion This case outlines the practical and ethical challenges of managing acute mania in patients with COVID-19. Literature regarding management of agitation in patients with COVID-19 encourages judicious use of psychotropic medications and avoidance of mechanical restraints, however, in manic COVID-19 patients a conservative approach may risk spread of infection. Polypharmacy rather than monotherapy was preferred in this patient given his level of agitation, homicidal ideation, and risk to others due to COVID-19. He was successfully managed by restarting his previously prescribed ziprasidone, divalproex sodium, and quetiapine with the addition of lorazepam for further control of his mania and aggression. Polypharmacy provided the additional benefit of allowing mechanical restraints to be discontinued early in his admission and his manic episode resolved prior to discharge. Psychotropic

medications and oversedation carry risks, however, in asymptomatic manic patients with COVID-19 these risks must be weighed against the risk of spreading infection to others. In these unique situations where providers must balance non-maleficence and general welfare, polypharmacy with close surveillance for signs of instability or side effects should be the preferred option. Conclusion Managing patients with acute mania on medical floors is difficult under normal circumstances, and if that patient has COVID-19, the balance of appropriately treating the patient for their psychiatric condition while mitigating risk of infection of others becomes even more precarious. We propose utilizing rational aggressive polypharmacy when managing acute manic patients with COVID 19 on medical floors.

**No. 78****Schizotypal Personality Disorder Disguised as Dissociative Identity Disorder**

*Poster Presenter: Andrew K. Mason, D.O.*

*Co-Authors: Alexander Kaplan, M.D., Jennifer Hein, M.D., Kyle James Hardwick, M.D.*

**SUMMARY:**

Schizotypal personality disorder (SPD) is a rare, often overlooked personality disorder accounting for approximately less than 4% of the US population (Rosell et al., 2014). SPD generally begins in childhood or adolescence, and presents with eccentric behaviors, unconventional thought processes, and odd perceptions. Due to infrequent and unconventional presentation of this mental illness, mental health professionals may misdiagnose patients with SPD. Here, we present a 20-year-old Active-Duty service member with self-endorsed multiple personalities that frequently interchange and contribute to a collective thought. On first appearance, this presentation led clinicians towards a diagnosis of dissociative identity disorder (DID). However, this patient's lack of characteristic features of DID, such as amnesia or disassociation, as well as the onset of symptoms which were closely adjacent with the release of a film with similar features, required clinicians to further investigate other possible differentials. Contribution of the film with a comparable, but inaccurate portrayal of DID may

have played a role in this patient's presentation but is unlikely to be solely responsible. Extensive interviewing along with psychological testing revealed this patient to likely have schizotypal personality disorder. As testing demonstrated that this patient did not have symptoms of more severe mood or psychotic symptoms, unnecessary psychopharmacological and psychotherapeutic modalities were avoided. Furthermore, current literature indicated a lack of efficacious psychotropic medication management options for patients with SPD (Jakobsen et al., 2017). In this case, therapeutic techniques were centered on defocusing the collective thoughts of the other personalities when the patient described himself as "we" and addressing the patient as an individual with "you". Other psychotherapeutic techniques were employed and remain ongoing at this time. Future studies may find benefit due to the complexity of this case and may allow clinicians potential direction regarding treatment of this underdiagnosed personality disorder.

#### No. 79

##### **Does Deficiency in Navigating Electronic Medical Records Contribute to Burnout?**

*Poster Presenter: Laura Worthen, M.D.*

*Co-Authors: Robert Wooten, M.D., David Martin, Ph.D., Andrew J. Powell, M.D.*

##### **SUMMARY:**

**INTRODUCTION:** Burnout is a syndrome of three main types of feelings, including emotional exhaustion, depersonalization, and low personal accomplishment.<sup>1</sup> Prevalence of physician burnout is increasing.<sup>2</sup> Physician burnout has the potential to affect patient quality of care negatively and lead to increased medical errors.<sup>3</sup> Burnout can also lead to depression, which can lead to physician suicide.<sup>4</sup> The purpose of this study is to assess residents' comfort level with electronic medical record (EMR) navigation and determine if there is a correlation between EMR proficiency and burnout. Ninety-nine percent of hospitals in the U.S. use some form of EMR. Every physician in the U.S. must undergo medical training utilizing EMR. This study could have widespread implications for future physician training in EMR navigation and physician burnout.<sup>5</sup>

**METHODS:** This is a cross-sectional study designed to assess resident physicians' levels of burnout, assess their proficiency in using computers and EMR, and factors contributing to burnout. The study population was resident physicians in family medicine (FM), emergency medicine (EM), internal medicine (IM), psychiatric medicine (PM), and transitional year (TY) programs. The primary outcome was burnout level measured by Abbreviated Maslach Burnout Inventory (MBI). Other outcomes were residents' comfort level in using EMR and how much burnout is attributed to EMR and other factors. **RESULTS:** A total of 36 residents participated in the study. 24% of the residents reported being very or somewhat uncomfortable in using an EMR. 73% of the residents reported having experienced burnout during residency training. 61% of the residents think that burnout was partially caused by lack of proficiency in navigating the EMR. Scores on the MBI indicated the following: for personal accomplishment, moderate burnout (mean=14.7; SD=2.5); for depersonalization, high burnout (mean=7.2; SD=5.0); and for emotional exhaustion, moderate burnout (mean=10.8; SD=4.3). Residents who were uncomfortable with EMR were 2 times more likely to have moderate to high burnout in personal accomplishment (odds ratio=2; 95% CI=0.29, 14). Residents who were uncomfortable with EMR were 3.4 times more likely to have moderate to high burnout in the depersonalization category (odds ratio=3.43; 95% CI=0.34, 34). **CONCLUSION:** The majority of residents experience burnout during residency training. Lack of proficiency in EMR can lead to moderate or high burnout. Other major factors contributing to burnout are lack of time spent with loved ones, lack of sleep, and dealing with the COVID-19 pandemic. These are all non-modifiable factors. Since burnout is a multifactorial phenomenon, any factor that can be reduced could potentially reduce rates of burnout among residents. An educational program involving a "How-To" Manual for navigating CPSI is needed to help the residents to become proficient in EMR and to potentially prevent burnout, depression, and suicide among residents.



## No. 80

### Case Series on Causes of Rehospitalization: Directions for Addressing Need

Poster Presenter: Jason Tran

Co-Author: Brooke H. Harris, Ph.D.

#### SUMMARY:

**Introduction:** Since 2007, there has been an increase in pediatric psychiatric hospitalizations in California. Suicide attempts, gestures, and ideation make for a large proportion of ED visits. Several factors, including dysfunctional family dynamics and poor coping skills, have been identified as causes of re-hospitalizations. Various therapeutic modalities, including family therapy and dialectical behavioral therapy (DBT), have been found to be pivotal in preventing re-hospitalizations. **Objectives:** In this case series, we examined factors related to repeated hospitalizations among twenty-four adolescent patients enrolled in our intensive outpatient program during the year 2020. We hypothesize that gaps in the treatment include failure to address family dynamics and maladaptive coping skills.

**Methods:** Data was collected from a large Northern California health system whose encatchment area includes 49,430 patients under age 18. In this study, we examined one site, Kaiser Permanente San Jose. Twenty-four adolescents were re-hospitalized during the year 2020 while enrolled in our intensive outpatient program (IOP). Chart review was completed to assess for factors related to repeated hospitalizations. **Results:** Family issues were identified in twenty-one out of twenty-four patients. These issues include poor parental participation in IOP (n=11), unaddressed parent-child conflict (n=5), interparental conflict (n=2), poor boundary setting between child and parent (n=2), and parent's psychiatric condition affecting child's wellbeing (n=1). Other factors that were identified include maladaptive behaviors such as adolescent cluster b personality traits (n=7), trauma and attachment issues (n=8), and substance use (n=7). **Conclusion:** Our analysis was consistent with the literature and our hypothesis. Within our sample, family-related stressors were found to be common factors related to repeated hospitalizations. We also identified substance use and trauma related stressors as an important factor. Given these findings and prior studies showcasing the effectiveness of therapeutic

modalities in preventing psychiatric re-hospitalizations, we propose implementing programs to address the unmet needs. These include family-therapy, DBT skills groups, and trauma-focused therapy among others.

## No. 81

### Seclude, Restrain, or Hold: Demographic and Clinical Correlates of Method of Restraint Used

Poster Presenter: Jessi Munoz, M.D.

Co-Authors: Lisa Cohen, Ph.D., Melinda S. Lantz, M.D.

#### SUMMARY:

**Introduction** An important goal of a hospital care setting is to prevent unintended adverse events. Physical restraints, seclusion and manual holds are a few of the methods employed in the acute care setting. The primary goal of these methods is to prevent patients from harming themselves or others. Physical restraints are defined as mechanical devices, or equipment, which restrict freedom of movement or normal access to one's body. Seclusion is the supervised confinement of patients alone in a locked room, from which they cannot leave of their own accord, at any time and for any duration or purpose. Lastly, with manual restraint, staff physically hold the patient, preventing movement. Restrictive measures can prevent adverse events in the hospital care settings but use of these measures can also encroach on patient rights and even cause physical injury and emotional trauma. In this regard, it is of use to identify the demographic and clinical predictors of restraint use, particularly of the types of restraints employed. Previous research has identified clinical and demographic factors, such as male sex, history of violence, and a diagnoses of schizophrenia or substance use that influence the use of restraints. To our knowledge, however, there are few if any studies that examine how such factors predict to the specific type of restraints used. Specifically, we assess the relationship between several clinical and demographic and type of restraint used, i.e., seclusions, manual holds and physical restraints. **Methods** Our sample (N=379) was drawn from the electronic medical records of an urban medical center. Type of restraint was the independent variable. The dependent variables used included:

age, gender, season, unit, and diagnosis. Univariate analyses were performed with chi-square tests, multivariable analyses with logistic regression. For the logistic regression, type of restraint was combined into a two groups, manual hold vs. seclusion/physical restraints. **Results** In bivariate analyses, all predictors were associated with type of restraint used except diagnosis, which trended towards significance. In multivariate analyses, male gender (AOR= 1.844 , p=.032 ), one or more prior restraint episodes ( AOR = 2.609, p = .007), and assignment to the unit with high proportion of psychotic patients ( AOR = .014, p = <.001) were all predictive of more restrictive type of restraints used (seclusion/physical restraint vs. manual hold. Age group and season lost significance in the multivariate analysis. **Conclusion** Our findings suggest that concentration of specific clinical and demographic groups may increase the incidence of more restrictive types of restraints. To decrease the incidence of restrictive restraints, psychiatric units could might consider a more equitable distribution of male, psychotic and previously agitated patients.

#### **No. 82**

##### **A Case Report: Rare Side Effect of SSRI Induced Acute Eosinophilic Pneumonitis**

*Poster Presenter: Hiteshkumar Talreja, M.D.*

*Co-Author: Sahil Gehlot, M.B.B.S.*

##### **SUMMARY:**

Acute Eosinophilic Pneumonia (AEP) is a rare, potentially fatal disease often characterized by a short febrile illness, hypoxemic respiratory failure, diffuse pulmonary opacities and evidence of pulmonary eosinophilia. AEP can be idiopathic, but has documented associations with multiple drugs. Case report: 67-year old male with past medical history of hypertension, who sent to ED by his PCP for test result positive for DVT. CTA chest showed multiple sub-segmental PE and ground-glass opacities more prominent on the lower lung field. He was diagnosed with unprovoked PE/ DVT and community acquired pneumonia. Patient completed broad-spectrum antibiotic course, but did not improve, returned to medical ER with repeated infection. His work-up was negative for infectious. It was noted that patient was started on Sertraline

50mg oral daily 2 weeks prior to first presentation. This case highlights AEP as a possible adverse reaction of Sertraline. He was started on Prednisone and Sertraline was discontinued.

#### **No. 83**

##### **Atypical Antipsychotic Poisoning During Cross-Titration of Olanzapine to Clozapine Presenting as Delirium/Sedation Syndrome**

*Poster Presenter: Tyler J. Torrico, M.D.*

*Co-Authors: Parisa Hashemi, D.O., Mohammed Molla*

##### **SUMMARY:**

Clinicians often resort to use of 2 or more antipsychotics in refractory psychosis or treatment-resistant cases, although this practice is controversial and complex as there is an increased risk of toxicity and other acute or long-term side effects. The inpatient cross-titration from olanzapine to clozapine is frequently practiced in treatment-resistant schizophrenia. Olanzapine poisoning has reports of a rare but specific delirium/sedation syndrome characterized by rapid fluctuations between extreme somnolence and intense agitation, this is also observed as a side effect of the long-acting injectable olanzapine formulation. Both olanzapine and clozapine are metabolized by cytochrome P450 CYP 1A2, which has known sensitivities to induction or inhibition from multiple common clinical factors including smoking, caffeine, drug interactions, inflammation, acute illness, and hepatotoxicity. This case report describes reversible, rare delirium/sedation syndrome associated with olanzapine poisoning, occurring on standard dosing for cross-titrating of olanzapine to clozapine, with normal serum levels of both medications, and reversible with discontinuation of olanzapine only. Complex pharmacokinetic etiology is suspected of contributing to the clinical presentation. This case serves as a reminder of the complexity of factors that may affect cytochrome metabolism, which is particularly of relevance in psychiatric patients who commonly have substance use comorbidities and medications with severe dose-dependent adverse reactions sensitive to CYP metabolism changes. We advise careful use of antipsychotic polypharmacy treatment, particularly when utilizing antipsychotics with the same CYP substrate metabolism, and in

patients clinical risk factors for potential alterations to CYP metabolism.

#### **No. 84**

### **Efficacy of Medical Marijuana in the Treatment of Psychiatric Disorders - the Current State of the Evidence**

*Poster Presenter: Anu Sehgal*

*Co-Author: Rajiv Radhakrishnan, M.D.*

#### **SUMMARY:**

**Introduction** As of May 2021, “medical marijuana” has been approved in 36 states, District of Columbia, Guam, Puerto Rico and US Virgin Islands in the US. Marijuana, however remains a Schedule-1 drug per the US Drug Enforcement Administration (DEA). States have variably approved the use of medical marijuana for psychiatric indications such as post-traumatic stress disorder (PTSD), anxiety disorders including generalized anxiety disorder, anorexia, agitation in Alzheimer’s disease, Tourette syndrome and autism. **Methods** We conducted a systematic review of the literature to identify clinical trials of cannabinoids and “medical cannabis” in the treatment of PTSD, Tourette Syndrome (TS), and Social Anxiety. **Results** There are a number of open-label studies using dronabinol, and cannabis in the treatment of PTSD which showed promising improvement in symptom severity and insomnia. However, the only randomized control trial (RCT) (Bonn-Miller et al., 2021), which compared medical marijuana containing high THC, high CBD, THC+CBD and a placebo, failed to find significant difference between the four groups. RCTs of the use of medical marijuana in Tourette Syndrome noted significant improvement in tic severity, although the sample-size of these studies was small (Muller-Vahl et al. 2002; 2003). In social anxiety disorder, cannabidiol (CBD) was shown to have promising anxiolytic effects in a small RCT (Bergamaschi et al, 2011) and potential neuromodulatory effects on imaging studies. A recent study however also found large expectancy effect with CBD on anxiety (Spinelli et al, 2021). **Conclusion** Overall, the strength of evidence for the use of medical marijuana in PTSD, Tourette syndrome and social anxiety disorder remains low at the present time. Adequately powered, high-quality studies that control for

expectancy response are warranted. Physicians need to continue to exercise caution and discuss the risks vs benefits with patients seeking medical marijuana for psychiatric conditions.

#### **No. 85**

### **Zonisamide-Induced Hallucinations in a Middle-Aged Woman**

*Poster Presenter: Lauren A. Hutnik*

*Co-Author: Melody Ong*

#### **SUMMARY:**

**Introduction:** Zonisamide (ZNS) is an anti-epileptic drug that modulates sodium and T-type channels in the brain. Commonly reported side effects of ZNS include anorexia, abdominal pain, dizziness, and drowsiness. Rarely, psychosis has been reported; it is most common in males at an average age of 27.9 years. Few cases have reported isolated auditory and visual hallucinations (AVH) secondary to ZNS. The age and treatment duration associated with these reports are variable (Age 7-52 years, treatment 3 days-7 months). This clinical report describes AVH secondary to ZNS in a middle-aged woman, an under-described patient demographic for the described phenomena. **Methods:** Case report, medical record review, literature review **Case Report:** A 41-year-old Hispanic woman with a history of childhood TBI and focal epilepsy on ZNS for 3 months presented with psychotic symptoms and possible breakthrough seizures. She was diagnosed with epilepsy in 2010. Before diagnosis, her seizures were complicated by visual hallucinations that resolved with antiepileptics. Due to side effects from other antiepileptics, the patient was started on a trial of ZNS 200mg in 2021, 3 months prior to presentation. Her dose was then increased to 300mg due to breakthrough seizures. With the increased dose she experienced new onset AVH, GI symptoms, abdominal pain, sadness, and a feeling of unease. She initially attributed the symptoms to a life stressor, but noted that symptoms began before and continued after the stressor resolved. She visited her PMD for anxiety and was prescribed escitalopram, which she initially declined to take. After experiencing an episode of auditory hallucination with retained insight, she took the escitalopram and lost consciousness. When she awoke, she

experienced nausea and numbness of her right upper and lower extremities. Auditory hallucinations continued and were accompanied by visual hallucinations of blood. She then weaned herself off ZNS, experiencing sensitivity to sounds, sights, and smells during this process. After complete discontinuation of ZNS, AVH resolved, and fecal urgency and sensory sensitivity improved. She denies a history of depression, alcohol, or drug abuse. EEG findings showed left frontotemporal spike wave discharges, MRI showed chronic left posterior temporal lobe encephalomalacia. Urinalysis was negative for UTI with absence of fever, normal WBC on CBC, and normal CMP.

Discussion: Only a few cases of AVH from ZNS are reported, and rarely has AVH with retained insight been described. Of note, while ZNS-induced psychosis is more common in males, most cases of hallucinations occur in women. Reduced dosage or discontinuation of ZNS resolved AVH symptoms within one week. Given this patient's history of seizure-related hallucinations, the causality of ZNS in generating these specific AVH symptoms is unclear, however, clinicians should be cognizant of this potential side-effect.

**No. 86**  
**Improving the Transfer of Pediatric Psychiatric Patients to Outside Facilities From Military Treatment Facility**

*Poster Presenter: James Mooney, M.D.*

**SUMMARY:**

Different hospital systems have different standards and procedures regarding reviewing and accepting patients. When the need to transfer patients occurs these differences can create logistical inefficiencies, especially when there is no set standard protocol to transfer patients to other specific systems. Tripler Army Medical Center does not have its own psychiatric inpatient ward and thus pediatric psychiatric patients who require admission must be transferred to outside hospitals. Prior to summer 2020 there was an outdated protocol in order to achieve this goal causing subjective reports of intensive time/resource investment that detracted from the patient care experience. This subjective experience was quantified and a new tailored

protocol was introduced in order to improve patient care and resource allotment. Both objective and subjective measures found that standardizing the transfer process improved transfer times as well as resident experience and patient care.

**No. 87**  
**Staff Perceptions: Restraint Bed Versus Chair, a QI Project for the Management of Behavioral Emergencies in the Psychiatric Inpatient Setting**  
*Poster Presenter: Briana Tillman, D.O.*

**SUMMARY:**

Background: Although reduction and potentially elimination of use of restraints in the management of psychiatric patients is ideal, it is important to also consider ways to improve the safety, effectiveness, and psychological sequelae of physical restraints given their continued necessity in certain situations. We compared data from use of the 4-point bed restraint (June 2018-June 2019) to use of the chair restraint (August 2019-August 2020) to determine what changes, if any, the new form of restraint brought about in the psychiatric unit. Curiously, we found that the number of events increased dramatically, from 10 during the year of 4-point restraints to 53 during the year when the chair was used instead. However, the average time spent in restraints decreased from 71.7 minutes in the bed to 47.1 minutes in the chair. The purpose of this Quality Improvement project was to explore these trends. Methods: We surveyed staff who had been involved with behavioral emergencies, evaluating their experiences with restraint types as well as their perceptions of ease of use, efficacy, utility, patient safety, and staff safety. Results: Staff perceive that the use of the chair on our adolescent ward is useful, safe, and preferable to use of bed restraints. Experience with the chair restraint is correlated with a more favorable view. Staff expressed mixed (but overall positive) feelings over the potential for chair use in adult populations. Conclusions: Results suggest that variables such as safety, humaneness, ease of communication, and usefulness may be at play. Success using the chair on the adolescent unit with favorable perceptions by those who have experience with it suggest that a trial of the restraint chair in the adult population would be seen as useful

and might increase staff perception of its utility. Mitigation strategies may help decrease number of restraint events in the future. </tbody>

**No. 88**

**Nihilism, Neurocognition, and COVID: A Case of Acute Onset Cotard's Syndrome**

*Poster Presenter: Caitlin Joy McCarthy, M.D.*

*Co-Author: Suraj Pal Singh, M.D., M.Sc.*

**SUMMARY:**

Mr. J, a 70-year-old Caucasian male with past medical history of gout, benign prostatic hyperplasia, and insomnia presented to the Emergency Department with altered mental status. Patient reported no psychiatric or AODA history although his mother had schizophrenia. He tested positive for COVID-19 six weeks prior to admission and recovered without hospitalization. He was brought in by family due to two weeks of erratic behavior and nihilistic delusions, irrational fixations on hospital bills, delusions of outstanding debt, and being homeless. Family confirmed he did indeed own his home and had no debts. He was admitted to the inpatient medicine service with differential diagnoses of neurocognitive disorder, post-COVID encephalitis, autoimmune encephalitis, or other toxicities and primary psychiatric disorder. An extensive medical workup did not show any clear etiology and his presentation and illness onset were unusual for a primary psychiatric illness. A brain MRI demonstrated nonspecific chronic microvascular ischemic white matter changes with neurocognitive deficits on testing. A cerebrospinal fluid examination did not yield any abnormalities. He was assessed by the psychiatry consult team, treated with olanzapine initially, and transferred to the psychiatric floor. His nihilistic delusions showed some improvement while other delusions persisted. Escitalopram was added to treat depressed mood. As symptoms were most consistent with psychotic depression, electroconvulsive treatment was initiated and continued for thirteen sessions. Olanzapine was transitioned to risperidone to further address the delusions. After two months of inpatient treatment, his delusions had significantly improved, and he was discharged. Given absence of any other clear etiology, this case highlights the possible long-term

effects of the novel coronavirus infection that are not yet fully recognized and understood. While primarily a respiratory disease, recent data continues to suggest there may be significant neuropsychiatric complications following SARS-CoV-2 infection. As the pandemic continues, it is likely more instances of post-COVID psychiatric complications will manifest. In this poster, we discuss the presentation and treatment course for a case of post-COVID psychotic symptoms in a geriatric patient with minimal psychiatric history and highlight the importance of additional research to further determine possible neuropsychiatric sequelae of infection.

**No. 89**

**"Bugilitis": DEET-Induced Psychosis in the Setting of Delusional Parasitosis**

*Poster Presenter: Chase Ossenkop, M.D.*

*Co-Authors: Sumeet Sandhu, M.D., Joseph Romero, M.S., Darcy Curtis, B.A.*

**SUMMARY:**

Patient CD is a 65-year-old African American female with a past psychiatric history significant for Bipolar Affective Disorder with no medication management admitted to an inpatient psychiatric unit on an involuntary commitment due to inability to care and danger to self. One week prior to admission CD had applied commercial grade pesticide including the compound DEET across her body and on all of her clothes in an attempt to rid an infestation problem she had identified as "Bugilitis." She developed erratic and disorganized behaviors, being brought in by police after being found wearing only trash bags outside of a grocery store. After initiation of antipsychotic medication as intervention for concerns of acute psychosis patient CD developed an organized thought process and established good rapport with the treatment team. With psychosis symptom remission CD developed concerns regarding bug infestation of her body and room, collecting debris to show the staff, combing her hair and showering often, and cleaning her room with hand sanitizer in an attempt to clear the infestation. With no evidence of any active infestation of the patient, and after collateral discussion, CD's presentation appeared most consistent with

Delusional Parasitosis. She expresses that she has struggled with her “Bugilitis” for a duration of 4 years, complaining to both medical providers and exterminators in that duration of time. Delusional Parasitosis is a well-known but minimally understood somatic delusional thought process with evidence for intervention being understood mostly through case reports rather than controlled studies. Given that this disorder primarily presents in the outpatient setting, CD’s presentation and concerns offered the treatment team a unique opportunity for intervention and management as an inpatient status. Further, given her presentation and symptom resolution after a short course of antipsychotic intervention, it is assumed that her presentation progressed to the point of requiring involuntary commitment due to a substance induced psychosis related to DEET exposure, a phenomenon very rarely mentioned in literature. In this poster, the diagnosis, management, and suspected pathophysiology of Delusional Parasitosis is discussed per review of the associated literature in conjunction with discussion of the concern for risk of substance induced psychosis development related to DEET exposure.

#### **No. 90**

##### **An Examination of Prescriber Bias in Long-Acting Injectable Versus Oral Antipsychotic Medications**

*Poster Presenter: Emily Groenendaal, M.D.*

#### **SUMMARY:**

**Background:** Long-acting injectable (LAI) antipsychotic medications were developed as a way to decrease frequency of medication dosing associated with oral antipsychotic medications and thus increase medication adherence (Maestri 2018). This intended effect has been observed in those with schizophrenia and bipolar disorder (Greene 2018), but there exist biases in how LAI and oral antipsychotic medications are prescribed (Aggarwal 2012). This retrospective cohort sought to explore potential prescribing biases among patients who received LAI and oral antipsychotic medications from 2019 to 2020 at Westchester Medical Center Behavioral Health Center. We aimed to categorize: what type of patients received LAIs versus Oral medications, and what specific agents were chosen for different sociodemographic and psychiatric

subgroups. **Methods:** 298 patient charts were reviewed and divided into two groups (N=149) based on whether patients received an LAI in 2019. The groups were matched by diagnosis (schizophrenia, schizoaffective, and bipolar), and information about their antipsychotic medications as well as sociodemographic information was recorded.

**Results:** Initial analyses utilized chi-squared calculations to determine differences between groups. Within the LAI group, a significant relationship was found between race/ethnicity and type of LAI type received ( $p=0.04$ ). Specifically, it seems black male patients received Haloperidol LAI more often than white male patients ( $p=0.003$ ). There was no racial difference found in the oral antipsychotic group ( $p=0.8$ ), and nonsignificant relationships were found in both groups with respect to diagnosis and sex. Linear regression, and other statistical analyses, will be used to identify independent predictive factors of prescribing specific LAI and oral antipsychotic medications. **Conclusion:** There may exist a racial bias in receiving LAI Haloperidol specifically, so one pertinent discussion point involves determining whether this potential bias could lead to worse outcomes in the affected group (Jones 2006). We hope this study will encourage prescribers and institutions to reflect on potential biases they may have in their prescribing based on sociodemographic information.

#### **No. 91**

##### **COVID-19 Induced Psychosis and Suicidal Ideation in Psychotic Patient: A Case Report**

*Poster Presenter: Victoria Ip*

*Lead Author: Nadia Obaed*

*Co-Authors: Samuel Adam Neuhut, M.D., James Allen McAlister, Aaiz Hussain*

#### **SUMMARY:**

Approximately one-third of people diagnosed with COVID-19 have developed multiple long-term neuropsychiatric symptoms including anxiety and psychosis. This clinical manifestation in the current SARS-CoV-2 pandemic may be attributable to the combination of psychosocial stressors and the encephalitic pathology of the virus. We present a case of a 20-year-old male with a past psychiatric history of depression, ADHD, and ongoing cannabis

use who developed anxiety and breakthrough psychosis leading to a suicide attempt two weeks following his COVID-19 diagnosis. He required admission to the inpatient psychiatry unit and was successfully treated with 15 mg olanzapine and supportive psychotherapy. The report implicates COVID-19 as a potential trigger for worsening psychiatric illness via neuroinflammation and compromise of the blood-brain barrier through peripheral activation of proinflammatory markers. Furthermore, we propose that the pathologic changes induced by COVID-19 may augment the physiologic effects of psychotropic drugs and worsen psychosis. Additionally, we highlight the importance of preventative measures against COVID-19 in the mentally ill population and demonstrate the need for more research investigating the relationship between COVID-19, new-onset and breakthrough psychosis, and psychotropic drugs.

#### **No. 92**

##### **Lithium-Induced Hypercalcemia Presenting as Catatonia in a Patient With Schizoaffective Disorder**

*Poster Presenter: Shantale M. Williams, M.D.*

*Co-Author: Muzammil Hyder*

#### **SUMMARY:**

One of the rarer phenomena and less studied side effect of lithium-induced hypercalcemia is catatonia. Lithium is widely used to treat acute mania as well as maintenance therapy for bipolar disorder (BPD). However, not much is known about the uncommon catatonic presentation produced by hypercalcemia. Electrolyte disturbances such as hypercalcemia and hyponatremia have previously been shown to cause catatonia (1). Further, there is a report of likely lithium induced catatonia in which the catatonic symptoms resolved upon discontinuation of lithium (2). Lithium has also been described as a reversal agent for catatonia (3,4). There are several unknown factors between the association of lithium and catatonia and its exact mechanism, which need to be further studied. In this case, we present a 55-year-old male with past psychiatric history of schizoaffective disorder, bipolar type maintained on lithium therapy, presenting with catatonia and altered mental status. Upon presentation, we observed symptoms of mutism, rigidity, immobility

and staring, and he was subsequently found to have hyperparathyroid-induced hypercalcemia. Elevated levels of both calcium and parathyroid hormone (PTH) were noted; 12.0 and 135.5, respectively. It is proposed that lithium interferes with calcium homeostasis by disrupting calcium-sensing receptors (CaSR) on the parathyroid gland, resulting in parathyroid hyperplasia and an increase in parathyroid secretion (6). However, lithium-induced hypercalcemia/hyperparathyroidism has also occurred with a normal parathyroid level, thus other mechanisms may be involved (7). Lithium therapy was discontinued, and as calcium and PTH levels normalized, patient began to gradually return to baseline function with improvement of mental status and communication through simple sentences. This case illustrates the importance of recognizing rare clinical presentations of hypercalcemia in patients on chronic lithium therapy. Because the neuropsychiatric manifestations of hypercalcemia are so broad, it is important to understand this phenomenon and be able to distinguish it from primary psychiatric disturbances (8).

#### **No. 93**

##### **Neuroinflammation and Psychosis: The Effects of Environment, Stress, and Medication on First-Episode Psychosis**

*Poster Presenter: Raza Sagarwala*

#### **SUMMARY:**

**Background:** Psychotic episodes have been associated with neuroinflammation and oxidative stress and are intimately connected to one's environment. It is this neuroinflammation and oxidative stress that results in damage to both grey matter (GM) and white matter (WM). It is through Diffusion Tensor Imaging (DTI) that researchers can better explore the neurobiological underpinnings of psychotic spectrum disorders. Of prime interest is the Corpus Callosum (CC) which seems to demonstrate dysfunction in a plethora of psychiatric conditions. Our main treatment for psychosis remains antipsychotics, which seem to have far more effects than simply dopamine antagonism (or partial dopamine agonism). Through this presentation, we hope to 1) further explore the

impact our environment has on development of first episode psychosis (FEP) and 2) the impact antipsychotics have on the reversal of WM pathology that results from one's environment as measured by DTI. **Methods:** A search was conducted to identify controlled trials published from January 2000 to January 2021, which assessed WM integrity, as measured by fractional anisotropy (FA), in drug-naïve patients with FEP before and after antipsychotic administration. Through this inclusion criteria, we are better able to identify baseline pathology of WM while allowing follow-up on the effects of antipsychotic medications on WM.

**Results:** 3 studies met the criteria for inclusion. All 3 studies demonstrate lower baseline FA in psychotic patients vs HC. A 6-week study (Wang et al) reported that antipsychotic medication results in a further decrease in FA within the bilateral ACG and right ACR, which are regions important in emotional processing. An 8-week study (Zeng et al) found that antipsychotic treatment increase FA at the SLF, resulting in improved symptoms and increased processing speed. A 3<sup>rd</sup> study (Serpa et al) found an increase in FA in several regions of the brain along with a negative correlation between FA and PANSS at full remission. **Conclusions:** Drug-naïve FEP patients have WM dysfunction at baseline. These patients' environments and increased stress with resultant spikes in cortisol and free radicals seem to be a contributing factor to development of psychosis. Antipsychotic medications appear to alter or improve WM structural abnormalities in addition to improving psychotic symptoms. Restoring WM integrity was observed especially after FEP patients achieved remission. Possible mechanisms of WM repair with antipsychotic therapy are discussed. More controlled trials are warranted to validate these conclusions.

#### **No. 94**

##### **Persistent Psychiatric Illness Following COVID-19 Infection in a Previously Healthy Patient**

*Poster Presenter: Mackenzie Barker*

*Co-Authors: Alex Lucci, M.D., James Rapley, M.D.*

#### **SUMMARY:**

S.W. is a 66-year-old African American female who presented to the ED for evaluation of new-onset

depression with suicidal and homicidal ideation. On evaluation, she was found incidentally to be COVID-19 positive. She was treated for COVID-19 with corticosteroids and supportive therapy and recovered. However, the patient continued to experience pervasive auditory hallucinations, paranoid delusions, intrusive thoughts, severe depression, and homicidal ideation towards members of her family. These symptoms were highly distressing to her and made it extremely difficult for her to function. Prior to contracting COVID-19, the patient had no psychiatric history. In the year following her recovery from the virus, she had one suicide attempt and five admissions to the psychiatry service for treatment of recurrent major depressive disorder with psychotic features. Her condition was refractory to treatment with various antidepressants and antipsychotics but eventually responded to a daily regimen of aripiprazole 15mg for psychosis, mirtazapine 15mg for depression, fluvoxamine 50mg for intrusive thoughts, and prazosin 12mg off-label for insomnia and nightmares. Since the beginning of the pandemic, there has been much speculation about the potential for long-term effects after infection with COVID-19. One such consequence that has been observed is the development of new psychiatric symptoms that may persist long after the infection has resolved. A clear mechanism for this phenomenon has not yet been established. In this poster, we highlight the unique features of S.W.'s case as we consider several of the proposed etiologies for new-onset psychiatric symptoms following COVID-19 infection. It is our hope that a better understanding of post-viral psychiatric pathology will allow us to develop treatment strategies that can help our patients recover a level of normalcy.

#### **No. 95**

##### **Synthetic Cannabinoid Use in First-Episode Psychosis**

*Poster Presenter: Suzanne Lippman, M.D.*

#### **SUMMARY:**

Introduction: Synthetic cannabinoids (SC) have been associated with development of psychosis given their strong binding to CB1 receptors in the brain, often resulting in psychiatric hospitalization. Several



case reports show an association between aggression and SC use, but this has not been studied in a first episode psychosis group. Therefore, our aims were 1) to determine the rate of SC use in a first episode psychosis sample, 2) to investigate the association between SC use and aggression, and 3) to collect qualitative data regarding patterns of SC use. Methods: First episode psychosis patients were recruited from inpatient and outpatient settings at the Zucker Hillside Hospital in Queens, NY. Participation criteria included 1) a diagnosis with a primary psychotic disorder, 2) cumulative antipsychotic treatment of 1 year or less, 3) age 15 to 40, and 4) ability to sign informed consent. Psychopathology was assessed using the Brief Psychiatric Rating Scale-Anchored version (BPRS-A) and Clinical Global Impressions Scale (CGI). A questionnaire created to assess the patterns of SC use (The Lippman Synthetic Cannabinoid Questionnaire) was employed with all subjects. The Life History of Aggression scale was used to collect data on aggression to assess the association with SC use. Urine toxicology tests and “K2/Spice” tests were also obtained from the chart. Results: To date, 18 participants have been enrolled. The mean age was 24.3 years (SD 5.4). 61% of the sample were male, and 39% were female. Twenty-eight percent identified as Black or African American, 28% as white, and 33% as Asian. Mean total BPRS was 45.2 (SD=11.6), and mean total CGI was 4.4 (SD=1.0). Three (16.7%) participants reported prior SC use on the Lippman Synthetic Cannabinoid Questionnaire, but none of the subjects tested positive on the K2/Spice test. Age of first use ranged from 14 years to 21 years. All three participants report being admitted to a psychiatric hospital in the context of SC use. None was aware of the potential negative mental health consequences associated with SC. Sixteen participants completed the Life History of Aggression Questionnaire. The mean total score was 14.5 (SD= 7.5) and the mean score of the aggression sub domain was 10.7 (SD=6.2). Multivariate regression analyses looking at the relationship between aggression and SC will be conducted once a bigger sample has been collected. Discussion: Our preliminary data show that a minority of first episode psychosis patients use SC (17%) but in those cases use of SC led to psychiatric hospitalization. Of note, this is an ongoing study, and the sample size is

anticipated to grow over the next several months, which will allow us to conduct further analysis.

#### No. 96

#### A Systematic Review of Theta Burst Stimulation Use in Various Psychiatric Disorders

Poster Presenter: Ayesha Younus

Co-Author: Shahan Sibtain, M.D.

#### SUMMARY:

**Abstract: Introduction:** Theta burst Stimulation is a type of Transcranial magnetic stimulation uses pulses at a specific frequency that mimics brainwaves, increases brain neuroplasticity up to 10 times faster than traditional TMS. Intermittent Theta burst stimulation (iTBS) has been demonstrated to modulate cortical activity in humans. It has gained attention due to fact that the short stimulation time is required to induce lasting physiological changes. A TMS protocol used to take 37.5 minutes while iTBS takes just 3 minutes. This study aimed to provide a comprehensive review of studies that used iTBS as a treatment highly prevalent psychiatric disorder associated with disruption in social and occupational function i.e. depression, PTSD and Cocaine use.

**Method:** Literature searches from (2008 to 2021) performed a random-effects meta-analysis by including response and remission rates of depression, PTSD, cocaine and dropout rates as main outcome measures. We present a systematic review followed by commentary on efficacy and practical use. **Result:** In patients with treatment-resistant depression, iTBS effects were similar to rTMS. iTBS had low numbers of dropouts and similar side-effects, safety, and tolerability profiles like TMS. iTBS was significantly associated with improved social and occupational function in case of PTSD; depression with PTSD was improved. iTBS was helpful in reducing craving, intake and prolonging abstinence in multiple sittings. **Conclusion:** Though studies were heterogeneous in terms of design and results but some shows promising results in case of depression and PTSD. However there is some limitations in studies related to cocaine but they show beneficial effects of iTBS in attenuating craving, reducing intake and prolonging abstinence in treatment-seekers. Future well designed studies are needed to confirm the efficacy of iTBS in treatment of such

disease. The use of iTBS would allow increasing the number of patients treated per day, thus reducing patient discomfort and hopefully reducing drop-out rates without compromising clinical effectiveness.

#### **No. 97**

##### **Personalized rTMS (PrTMS®) Guided by qEEG Provide Improved Outcome in a Patient Suffering From Concussion, Depression, and Anxiety Following a Surfing Accident**

*Poster Presenter: Christopher Kenta Tokeshi, M.D.  
Co-Authors: Ryoko Hiroi, Ph.D., Celia Mercado Ona, M.D.*

#### **SUMMARY:**

A previously healthy Caucasian man in his 20s presented for a near drowning episode following a surfing accident. The patient was found to be cyanotic and unresponsive after being pulled out of the water and received CPR for 5 minutes. He arrived at the ED in severe distress with O<sub>2</sub> saturation at 60%, was admitted to the ICU and treated for acute respiratory failure, hypoxia, pulmonary edema, and lactic acidosis. He otherwise showed no signs of other injuries and was discharged when his pulmonary status improved. Later during follow up in neurology clinic, however, the patient had persistent neurocognitive symptoms, confusion, sleep dysregulation, fatigue, severe anxiety and depression. The effectiveness of the current management practice for concussion (i.e. mild traumatic brain injury and its sequelae, post-concussive syndrome) has been in dispute and there have been considerable research efforts in search for alternative methods. Recent studies pointed to repetitive transcranial magnetic stimulation (rTMS) as a promising new tool for concussion treatment (Koski et al., 2015; Cavinato et al., 2012; Xia et al., 2017; Leung et al., 2016). It is thought that high frequency pulses (5 Hz and higher) produced by rTMS increase cortical excitability and thereby improve cognitive functions. In particular, the amplitude of alpha frequency oscillations during resting period corresponds to alpha reactivity, with large alpha at rest associated with better cognitive performance (Klimesch et al., 2003). These alpha bands are only observed when frequency is adjusted to the individual. In this report, the patient was seen

and received daily rTMS with personalized alpha frequency, as determined by quantitative EEG (qEEG-guided PrTMS). The EEG tracings from the first session showed decreased alpha waves in the frontal and somatosensory areas of the brain, suggesting severe brain dysfunction likely due to hypoxia, head impact on the reef (as his helmet was shattered), or both. Over the next few weeks of treatment, activation of alpha wave distribution and activity showed improved synchrony across cerebral cortex. Remarkably, the timing of this synchrony coincided with clinical improvement in concussion, anxiety, depression, fatigue, and sleep condition as measured by CSI, GAD-7, PHQ-9, MFIS, and SCI respectively. These results indicate that qEEG-guided PrTMS was associated with clinical recovery from concussion, improved mental health condition and level of functioning. This study provides further crucial evidence of the promising implications for the use of this novel, non-invasive, personalized approach to effectively treat concussion and its constellation of mental health comorbidities such as anxiety, depression, confusion and other neurocognitive impairments. Further studies comparing the effects of qEEG-guided PrTMS on concussion to a placebo group are warranted to determine the extent of its effectiveness over the recovery course.

#### **No. 98**

##### **Disparities in Prevalence of Substance Use Disorders Between Patients With Different Education Levels Among Electroconvulsive Therapy Recipients**

*Poster Presenter: Junwei Zhang  
Co-Authors: Ashley Cantu-Weinstein, Chandler Hicks, Jian Zhang*

#### **SUMMARY:**

Background: Electroconvulsive therapy (ECT) is a safe and effective intervention for severe and treatment-resistant mood disorders<sup>1</sup>. However, research has identified diagnosis of substance use disorder (SUD) as a confounding factor for responsiveness to ECT<sup>2</sup>. In addition, research has demonstrated a positive association between lower educational attainment and risk for developing SUD<sup>3</sup>, suggesting that lower education levels may indirectly put patients at risk

for decreased ECT efficacy. No study to date has characterized disparities in prevalence of SUDs between patients with different education levels among those referred for ECT treatment. Identifying such characteristics in conjunction with consideration of past research is important for understanding socio-economic and clinical features of those referred for ECT treatment, and how these features may influence treatment outcomes.

**Methods:** This study employed a retrospective chart review of adult patients who received outpatient ECT at University Hospitals Cleveland Medical Center (UHCMC) from January 2010 to March 2020. At evaluation for ECT, a board-certified psychiatrist administers a diagnostic interview according to DSM-IV/5 criteria. A lifetime history of alcohol, cannabis, cocaine, opioid, hallucinogen, and hypnotic use is included in consideration of SUD diagnosis. For analysis, patients were grouped into 3 levels of educational attainment: high school or less (level 1), some college (level 2), and college and above (level 3). Association between education and SUD was assessed using Pearson's Chi-squared test.

**Results:** Among those with a reported education level receiving outpatient ECT at UHCMC (N=256), 27.3% (N=70) received level 1 education, 29.3% (N=75) received level 2 education, and 43.4% (N=111) received level 3 education. There were 136 patients (53.1%) diagnosed with SUD. In education level 1, 62.9% (44/70) had SUD. In level 2, 57.3% (43/75) had SUD. In level 3, 44.1% (49/111) had SUD. A significant difference in prevalence of SUD among the 3 levels was found ( $p=0.034$ ). The difference between SUDs among levels 1 and 2 was not significant ( $p=0.078$ ); however, for patients specifically presenting with cannabis use disorder (CUD), a significant difference existed between these levels ( $p=0.001$ ). There was also a significant difference among all 3 levels for patients presenting with CUD ( $p=0.005$ ). **Conclusions:** The largest proportion of patients receiving ECT treatment had a college degree or higher. This potentially alludes to lack of accessibility to ECT for patients in lower socioeconomic strata, or difference in decision-making related to education. Over half of the patients had SUD, which might impact their response to ECT. Results also implicate cannabis as a substance with significantly different rates of use between education levels. Future analysis for this

study will determine if significant differences exist in ECT outcomes based on SUD status and/or education levels.

#### No. 99

##### **COVID-19 Vaccine Hesitancy Among Pregnant Patients: The Role of Stress**

*Poster Presenter: Ashley Cantu-Weinstein*

*Co-Authors: Katherine Taljan, Lilian Gonsalves, Oluwatosin Goje*

#### **SUMMARY:**

**Background:** In the United States (US), pregnant women are eligible for vaccination against COVID-19. As of September 2021, the Center for Disease Control reported that only 25.1% of pregnant women in the US received at least one dose of a COVID-19 vaccine, raising concern that vaccine hesitancy is preventing widespread vaccine uptake among this population<sup>1</sup>. Research identifies stress as a complex mediator in the process of decision-making, but limited research exists on the relationship between stress and vaccine hesitancy during pregnancy<sup>2-4</sup>. This study characterizes sources of stress that may influence COVID-19 vaccine uptake during pregnancy. **Methods:** An anonymous survey, consisting of demographic data and multiple-choice questions on COVID-19 vaccination status, mental health history, and self-reported sources of stress related to COVID-19/COVID-19 vaccines, was conducted across several Cleveland Clinic Women's Health satellite offices from July to September 2021. Participants rate the level of worry, stress or anxiety from risk to self from COVID-19, risk to baby from COVID-19 and decision-making about the COVID-19 vaccine in pregnancy. Respondents then complete the Generalized Anxiety Disorder-7 assessment (GAD-7). Unpaired t-tests and Fisher's exact test were used to analyze survey responses. **Results:** 108 pregnant women completed the survey (mean age 31.6 years; 72.2% White). 47.7% of respondents identified risk to self from COVID-19 as sources of stress. More (59.8%) worried about risk to baby. 26.7% identified decision-making about COVID-19 vaccine as a source of stress. Unvaccinated respondents were less likely than vaccinated to report stress due to the risk to self ( $p=0.0012$ ) or baby ( $p=0.0005$ ) from COVID-19 but were more

likely to report stress due to decision-making about the COVID-19 vaccine ( $p=0.0125$ ). History of mental illness did not differ between unvaccinated and vaccinated ( $p=0.4$ ), nor did rate of GAD-7 scores  $\geq 10$  ( $p=1.000$ ). **Conclusions:** Results demonstrate risk of COVID-19 and decision-making about COVID-19 vaccines as sources of stress for pregnant women. Though reported stress was not associated with elevated GAD-7 scores, stress from risks to self or baby from COVID-19 was associated with higher likelihood of vaccination. This suggests such health concerns as a transient stressor that urges patients to take protective measures against COVID-19. However, patients with reported stress associated with decision-making were less likely to receive the COVID-19 vaccine. Research indicates stress associated with decision-making as generally chronic in nature, raising concern that patients who struggle with vaccine-related decisions may go on to develop clinically significant anxiety<sup>2</sup>. It is important for providers to distinguish between health and decision-related sources of stress when discussing COVID-19 vaccination with pregnant patients, as these stressors may uniquely influence vaccination uptake and mental health outcomes.

#### **No. 100**

##### **A Telehealth Collaborative Care Framework for Perinatal Depression Identified in a Pediatric Clinic**

*Poster Presenter: Xiaoyue Zhong*

*Co-Authors: Paloma Lucia Reinoso, M.D., Sophia Jan, M.D., M.S.P.H., George Alvarado, M.D.*

#### **SUMMARY:**

**Background:** Perinatal psychiatric disorders are associated with increased risk of psychological and developmental disturbances in children<sup>1</sup>. The well-child visit for many parents is the most consistent interaction with the healthcare system after delivery<sup>2</sup>. The American Academy of Pediatrics (AAP) recommends screening parents for postpartum depression during pediatric primary care visits during the 1, 2, 4, and 6 month well-child visit<sup>3,4</sup>. In the pediatric settings, studies have shown that around 13-14% of mothers had a positive screen using the Edinburgh Postnatal Depression Screen (EPDS)<sup>5,6</sup>. While more pediatric settings are screening for postpartum depression, removing

barriers to access to care is essential. Prior retrospective studies have shown that only around 11% of parents who are referred to behavioral health services after a positive screen in the pediatric setting actually received mental health services<sup>5</sup>. While it is rare for adult psychiatric care to be co-located within pediatric primary care, there have been benefits associated with co-location of care, including convenience, low barrier to entry and improved trust<sup>7</sup>. Given the increasing use of telehealth in psychiatry, there exists an opportunity to further expand collaborative care services to improve linkage to care. **Methods:** A Donebedian model was used to inform the expansion of behavioral health care services at a large urban academic pediatric practice in a large clinically integrated health system. A retrospective chart review was conducted to assess baseline EPDS screening rates and identify mothers who had positive screens (score greater than 10). Three weeks were randomly chosen to review, including charts from 0,1,2,4, and 6 month well-child visit based on AAP guidelines. Previous well-child visits were also reviewed. Structured interviews were conducted to identify potential barriers and assess baseline connection rate to a clinician (therapist, psychiatrist, primary care, or OBGYN). The workflow was reviewed and resigned to address gaps in care and improve linkage to behavioral health care. A framework and intervention using existing telehealth collaborative care coordination was expanded from only pediatric clients to include mother's who screened positive for postpartum depression. **Anticipated Results and Conclusions:** Based on preliminary chart review, EDPS screening rates during the time of well-child visits were found to be 50.7% with 88.6% of mother's having been screened at least once ( $n=132$ ). Positive screening rates for postpartum depression were 10.4% ( $n=67$ ). Engagement of multiple interdisciplinary stakeholders was critical for the expansion of collaborative care services provided. As this model is implemented, it is hypothesized that detection rates will improve as well as improved linkage to behavioral health care for individuals with a positive EPDS screen in the pediatric primary care setting.

## No. 101

### **It Takes a Village: A Multidisciplinary Approach to Catatonia in Pregnancy**

*Poster Presenter: Mariella Suleiman, M.D.*

*Co-Authors: Patricia Paparone, M.D., Ahmad Mohammad, M.D.*

#### **SUMMARY:**

**Introduction:** Although treatment pathways are described on how to address potentially fatal catatonia, limited data is available on how to approach it in pregnancy[1]. Benzodiazepines remain the drugs of choice for catatonia as they are easily administered, safe and effective[2], although have potential to cause oral clefts during organogenesis[3]. Electroconvulsive therapy is also a safe and effective treatment modality for various psychiatric disorders in pregnancy including catatonia[4], however it is not readily available at the majority of the institutions. **Objective:** To discuss a case report of a pregnant patient, who presented with catatonia, and was admitted to the inpatient unit. Goals include discussing current treatment guidelines and encouraging a multidisciplinary approach. **Case Report:** J is a 38-year-old primigravid patient with schizoaffective disorder, who presented in her 3<sup>rd</sup> trimester. She was denying her pregnancy, lacking prenatal care, and in a catatonic state after wandering the streets in the setting of psychosis and medication non-adherence. J was treated with benzodiazepines after weighing the benefits versus risk of untreated mental illness for mother and fetus (including teratogenicity)[3], risk of harm to self and others, level of distress she would experience with multiple vaginal examinations required during her pregnancy, and concern that this may hinder her ability to cooperate for safe delivery of the baby. Our primary focus was a multidisciplinary approach, consisting of Psychiatry, Maternal-Fetal-Medicine and Obstetrics (OB) teams. Regular meetings were held to determine which interventions were emergent to prevent harm to the patient and fetus, such as need for sonograms to determine the viability of her pregnancy. As the psychiatric unit and labor & delivery are in separate buildings, a contingency plan was made for safe transportation of the patient, in coordination with nursing, mental health workers, and OB, in case of pregnancy related emergencies or onset of labor. Following the

resolution of catatonia, J was restarted on antipsychotics. She began acknowledging her pregnancy and engaging in discussions about her baby's health, and there was gradual resolution of psychosis. Our multidisciplinary care team decided to transfer the patient from inpatient psychiatry to OB to await delivery with consult-liaison psychiatric follow up. She successfully participated in normal vaginal delivery at term. **Conclusion:** An individualized approach is necessary to target the needs of pregnant patients. In addition to medication management, a multidisciplinary approach is essential in leading to well-rounded patient care and assisted in a better prognosis for this patient. We strongly believe that frequent multidisciplinary meetings were a primary reason for safe care delivered to this patient and we advocate strongly for a multidisciplinary approach to treatment of pregnant patients on inpatient psychiatric units.

## No. 102

### **Exploring the Association Between Electronic Wearable Device Use and Levels of Physical Activity Among Individuals With Depression and Anxiety**

*Poster Presenter: Somto Valentine Enemu, M.D., M.P.H.*

#### **SUMMARY:**

**Aim:** The present study aimed to investigate the cross-sectional association between self-reported use of electronic wearable devices (EWD) and the levels of physical activity among a representative sample of adults with depression and anxiety in the United States. **Methods:** For this cross-sectional study, data were pooled from the Health Information National Trends Survey 2019. A sample of 1,139 adults with self-reported depression and anxiety (60.9% women; mean age of 52.5 years) was analyzed. The levels of physical activity and prevalence of EWD utilization were self-reported. The chi-square tests were used to compare individual characteristics through the use of EWD. Multivariable logistic regression was employed to investigate the association between EWD and physical activity levels while adjusting for sociodemographic and health-related factors. **Results:** From the 1,139 adults with self-reported

depression and anxiety, 261 (weighted percentage 28.1%) endorsed using EWD in the last year. After adjusting for covariates, the use of EWD was only significantly associated with a higher odds of reporting intention to lose weight (OR 2.12; 95% CI 1.04, 4.35;  $p = 0.04$ ). We found no association between the use of EWD and meeting the national weekly recommendation for physical activity or resistance/strength exercise training. **Conclusion:** About three in 10 adults suffering from depression and anxiety in the United States reported using EWD in the last year. The current study findings indicate that among people living with mental illness, EWD use is associated with higher odds of weight loss intent suggesting that EWD may serve as an opening for the clinical interactions around physical health through identifying patients primed for behavior change. Further large-scale studies using randomized trial designs are needed to examine the causal relationships between EWD and the physical activity of people with mental health conditions.

#### No. 103

##### **Trends and Factors associated with the Use of Digital Health Tools among Individuals with Serious Psychological Distress in the US**

*Poster Presenter: Henry Kosorochi Onyeaka, M.D., M.P.H.*

*Co-Authors: Burhan Khan, M.D., John Torous, M.D.*

##### **SUMMARY:**

**Background:** Digital health technology (DHT) has emerged as a valuable tool to augment and deliver mental health care. However, crucial data on the trends and sociodemographic disparities associated with the use of DHT among individuals with serious psychological distress (SPD), a marker of serious mental illness remains scarce. A better understanding of the trends and predictors of digital health tools (DHT) is critical to the development of effective digital interventions to improve access and outcomes in this highly vulnerable group. **Methods:** A cross-sectional analysis of the 2013 to 2017 National Health Interview Survey was conducted. Descriptive statistics and multivariable logistic regression was employed to assess the use of digital health technology among individuals aged  $\geq 18$  years with SPD in the United States across 3 domains

digital health technology (internet) use: 1) to fill a prescription online, 2) schedule a medical appointment online, and 3) communicate with health care providers. **Results:** A total of 6,110 adults (mean age of 46.7 years; 60.9% women, 65.4% non-Hispanic whites) reported SPD. Overall, 15.6% reported at least 1 technology-based interaction with the health care system (7.6% filled a prescription on the Internet, 8.2% scheduled a medical appointment on the Internet, and 9.4% communicated with a health care provider by e-mail). During the 5-year period, the proportion of individuals with SPD who utilized any digital health technology to interact with the health care system increased significantly from 10.0% in 2013 to 21.3% in 2017 ( $p < 0.001$ ). In multivariable models, younger age, female sex, United States-born immigration status, higher education level, high income, having public health insurance, belonging to the western United States, and presence of medical comorbidities were significant predictors of using DHT. **Conclusions:** The use of digital health technologies among individuals with SPD in the United States increased between 2013 and 2017, highlighting the potential for integrating these tools to expand access and continuity of care for this vulnerable population. However, uptake remains low as only 1 in 5 adults with SPD reported at least one form of digital-based health interactions. Our results also indicate that sociodemographic disparities in DHT use among this population exists. Future studies should focus on interventions to address the inequities in DHT access and use in this highly vulnerable group

#### No. 104

##### **Approach to Teaching Trauma-Informed Care in the Era of COVID-19**

*Poster Presenter: Sean T. Lynch, M.D.*

##### **SUMMARY:**

**Background:** It is widely recognized that the majority of patients have experienced some form of trauma at some point in their lives. Trauma is defined by the Substance Abuse and Mental Health Services Administration as "an event, series of events, or set of circumstances that is experienced by an individual

as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual wellbeing.<sup>1</sup> Brown et al proposed a Trauma-Informed Medical Education (TIME) framework.<sup>5</sup> The importance of educating medical students, as well as the general population, regarding the issues of trauma, domestic violence, etc., continues to grow, especially in the light of the current SARS-CoV-2 (COVID-19) pandemic. In a 2020 editorial published in the Journal of Clinical Nursing, the authors discuss global increases in domestic violence, including a 40-50% increase in Brazil.<sup>9</sup>

**Methods:** We describe here our design of a three-hour interdisciplinary lecture and discussion series to educate second-year medical students in the topic of trauma-informed care. The series was developed, educated, and reviewed during the midst of the COVID-19 (SARS-CoV-2) pandemic. Pre- and post-lecture surveys assessed comfortability regarding the subject and knowledge of the material. **Results:** A total of 208 second-year medical students participated and filled out a pre-lecture survey. After the completion of the activity, 118 (56.7%) of the participants completed a post-lecture survey. Prior to the lecture, 104 respondents (49.3%) said that they were either "comfortable" or "very comfortable" discussing topics such as gender, sexuality, and trauma with patients, compared with 97 (82.2%) after the lecture. 84 (39.8%) of respondents "agreed" or "strongly agreed" that the existing curriculum did an adequate job preparing them to discuss these topics with patients prior to the lecture series, compared with 113 (95.8%) after. Prior to the activity, 209 (98.6%) respondents stated that they felt that these topics were important to be taught to medical students. 177 (83.5%) responded that they either "agreed" or "strongly agreed" that they would benefit from additional trainings in this subject material. After the completion of the activity, 111 (94.0%) responded "agree" or "strongly agree" that they would be able to apply this lecture to the clinical setting, and 113 (96.6%) responded that they either "agreed" or "strongly agreed" that the quality of the educational session was good. **Conclusion:** Based on a review of the literature, the authors' own observations, and testimony from our student body, it is evident that improved integration of a trauma-informed curriculum into UME is not only beneficial,

but necessary. Additionally, we believe that the framework described above to generate a virtual trauma-informed curriculum is effective, cost-efficient, and easily replicable.

#### **No. 105**

#### **Effect of Trauma Informed Care Supervision and Staff TARGET Training on the Safety of Youth Leaders in a Juvenile Detention Center**

*Poster Presenter: Alicia A. Barnes, D.O., M.P.H.*

*Co-Author: Nader Hashweh*

#### **SUMMARY:**

**Background:** Trauma and PTSD are significantly more prevalent in juvenile-justice involved youth housed in juvenile detention than the general population. Youth with a history of juvenile delinquency were significantly more likely to report emotional abuse, physical abuse, emotional neglect, parental separation/divorce, witnessing domestic violence, and incarcerated household members than their matched controls. However, in general, the system has not been seen as effective in addressing the services needs of youth and there is no consensus on the efficacy of trauma-informed interventions in the juvenile detention setting. Detention direct-care staff workers (youth leaders) are at increased risk of mental illness and secondary trauma due to their increased risk of violence and perceived detachment/lack of support from supervisors/administration. This study retrospectively evaluates a pilot program instituted at a mid-sized Midwestern city juvenile detention center that aimed at providing trauma-informed care (TIC) to detained youth. **Methods:** Staff who are trained in Trauma Affect Regulation: Guide for Education and Therapy (TARGET) were assigned to a trauma responsive unit (TRU). TRU also employed a TIC supervisor to provide support to youth leaders through therapeutic coaching, interactive supervision, and use of a proactive, strength-based, limit-setting approach with the youth. Worker injuries caused by direct youth contact were documented in workers compensation claims and analyzed by unit (TRU vs TAU: treatment as usual). Structured interviews were also conducted with the TIC supervisor and the director of psychological services to qualitatively assess the program. **Results:**

There was a total of 324 full-time equivalent work weeks worked in a 9-month period when the program was piloted. There was a total of 5 injuries recorded. All of them during youth restraint. The relative risk of injury on the TAU unit vs. TRU is 9 [CI 4.06, 19.93]. The consensus from the interviews endorsed the staff-youth relationship in the TRU unit leading more successful de-escalations, preventative interventions, and decreased violent incidents. The interviewees opined that the increased support led to improved organizational commitment and job satisfaction. **Conclusion:** TIC might not only be important in the treatment of youth in juvenile detention but has implications on the wellness, safety, and retention of direct-care, qualified staff members. These findings might encourage more facilities to adopt TIC in their milieu and their day-to-day operations.

#### **No. 106**

##### **Written Exposure Therapy for Suicide in a Military Inpatient Psychiatric Unit for Patients With PTSD—a Case Series**

*Poster Presenter: Jennifer Hein, M.D.*

*Co-Authors: Alexander Kaplan, M.D., Hannah Tyler, Brian Marx*

#### **SUMMARY:**

**Intro:** The rate of completed suicide in the US Army has continued to rise, with 2020 showing the highest suicide rate in recorded history (Orvis, 2021). In a study conducted of US Army service members, those that died by suicide were 13 times more likely to have been diagnosed with PTSD (Black et al., 2011). While significant evidence-based treatment exists for PTSD in an outpatient setting, there has been limited research conducted for acute treatment of PTSD for suicidal patients during psychiatric hospitalization. **Methods:** Active duty service members who were hospitalized in a military inpatient psychiatric unit for acute suicidal risk, who also met DSM-5 criteria for PTSD, were offered enrollment in a pilot treatment plan during hospitalization. The pilot treatment did not impact standard treatment of care or duration of hospitalization. The treatment modality provided, called Written Exposure Therapy for Suicide (WET-S), is a brief five-session therapy based on WET protocol

and augmented with Crisis Response Planning (CRP) for suicide prevention. Assessment of PTSD and suicidal symptoms pre and post treatment was conducted using the PTSD Checklist (PCL-5) and Suicide Cognition Scale-Short Form (SCS-S), among others. While the goal was for patients to complete WET-S treatment during hospitalization, if needed they were able to complete remaining sessions following discharge. **Results:** Four patients met criteria and initiated WET-S treatment during hospitalization. All four patients were able to complete treatment within 12 days of being discharged. Three of the four patients reported a large decrease in PTSD symptoms (PCL-5 score reduction by 40-80%). Two of the four patients who reported improvement of PTSD symptoms also experienced a reduction of suicidal thoughts (SCS-S score reduction by 25-37%). Nine months following treatment, all four patients were alive. Two of the four required readmission at least once to the acute psychiatric inpatient unit. **Conclusion:** Given the two-fold increased risk for suicide attempts among PTSD patients (Nock et al., 2014) and the elevated risk of suicidal acts following psychiatric hospitalization (Forte et al., 2019), standardized treatment modalities should be considered for this patient population. Implementation of a brief treatment plan while inpatient helped to facilitate a 100% treatment completion rate among participants. This is noteworthy given the high dropout rate historically for individual psychosocial treatment of PTSD (e.g. Berke et al., 2019). High completion rates and improvement of symptoms following inpatient hospitalization, makes WET-S a promising treatment modality. This research has continued on the inpatient psychiatric unit and future results are hopeful in demonstrating a statistically significant improvement in PTSD symptoms and suicidality through use of the WET-S model.

#### **No. 107**

##### **A Comprehensive Literature Review of Neuromodulation Techniques in the Management of Neurodevelopmental Disorders in Children and Adolescents**

*Poster Presenter: Ashabari Pellechi*

*Co-Authors: Brett Kramer, D.O., Ramkrishna Makani, M.D., M.P.H., Lauren Russo, D.O.*



**SUMMARY:**

Objectives: Neuromodulation is still in its infancy as a tool for the management of neurodevelopmental disorders, such as Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), Tourette Syndrome (TS), and Intellectual Disability (ID), due to a paucity of safety data, efficacy, and recommendations for its use in children and adolescents. By consolidating the most recent literature, we aim to provide a critical review of the role of neuromodulation techniques (ECT and TMS) in the treatment of neurodevelopmental disorders in the child and adolescent population. Methods: 95 articles were retrieved and examined for literature review using PubMed with keywords “autism spectrum disorder”, “ASD”, “intellectual disability”, “ID”, “developmental disability”, “attention deficit hyperactivity disorder”, “ADHD”, “tourette syndrome”, “electroconvulsive therapy”, “ECT”, “transcranial magnetic stimulation”, “TMS”, “neuromodulation” and “neurodevelopmental disorders”. Results: TMS is an active area of investigation in the treatment of ASD, with some studies showing improvement in behavioral and functional outcomes when it is applied at the dorsolateral prefrontal cortex (DLPFC). ECT has primarily been used to treat comorbid conditions in ASD, such as catatonia or severe self-injurious behavior (SIB), though it is otherwise under-studied. In ADHD, few single studies have had mixed results, with some showing decreased impulsivity after TMS at the DLPFC. Numerous studies show TMS to be safe with no reported major side effects. We did not identify any significant studies examining ECT in ADHD, nor any studies examining TMS in children with ID. We identified only four case studies of ECT to manage SIB in ID. Evidence on neuromodulatory treatment of TS is also sparse. Several studies have shown ECT to be beneficial in treating comorbid psychiatric symptoms of TS, as has TMS in the global reduction of tic symptom severity. Conclusions: There remains a dearth of information regarding the use of neuromodulation in the management of neurodevelopmental disorders in children and adolescents. Its use thus far has largely been to target comorbid conditions of these disorders, ultimately confounding treatment benefit. By reviewing the current evidence on efficacy and

safety, we aim to provide a building block for future prospective studies.

**No. 108****The Impact of Physical Environment on Outpatient Mental Health Care and Recovery: A Qualitative Study of Patient Perspectives**

*Poster Presenter: Tiffany Y. Lin, M.D.*

*Co-Author: Honor Hsin*

**SUMMARY:**

Introduction: The environment in which mental health care and recovery takes place has been found to affect patients' emotional states, suggesting that physical space design may play a role in optimizing the efficacy of mental health treatment [1]. Principles of architectural design and human-centered co-design have been utilized to enhance patient experience of facility environments [2]; however, little is known about how patients view the role of physical spaces in their recovery journeys. Objectives: The aim of this qualitative study was to understand patient perspectives of the ways in which physical environments contribute to mental wellbeing and personal experiences of recovery. Methods: Semi-structured telephone interviews were conducted with 13 patients engaged in treatment at the Kaiser Permanente San Jose Adult Psychiatry Clinic who had attended at least one in-person visit to the clinic within the previous 12 months. Interviews were transcribed and thematic analysis was used to develop foundational themes that could generate ideas to inform future physical design. [3] Results: The sample was comprised of 75% female and 25% male participants between the ages of 26-64. Services received at the clinic included medication management, individual psychotherapy, group psychotherapy, intensive outpatient program, or combinations of these services. Analysis revealed four dimensions of physical environments that participants found impactful in their recovery: 1) the sensory design elements of the physical space (colors, sounds, and textures), 2) the interactive elements of the space (degree of distracted activity such as crafting or commuting), 3) the relational aspects of the space (privacy or connection), and 4) the affective experiences evoked by being present in the space itself (feeling safe, calm, in control, self-

aware, or creative was beneficial). Many of these elements were similarly noted across clinic and non-clinic environments. Conclusion: This study identifies key dimensions of physical environments that can serve as outcomes or metrics of design success in supporting and facilitating mental health recovery. In the midst of the current COVID pandemic, where treatment has increasingly shifted outside of traditional clinics, our findings can support patients and clinicians seeking to harness potential in situ therapeutic benefits of physical environments.

#### **No. 109**

##### **Mindful in Mississippi; Introducing Mindfulness for Health Care Workers to Combat Burnout at the University of Mississippi Medical Center**

*Poster Presenter: Seth J. Kalin, M.D.*

*Co-Authors: Kevin Freeman, Scott McLaurin Rodgers, M.D., Robert Barber*

#### **SUMMARY:**

**Background:** Healthcare workers are at increased risk of burnout and its associated symptoms. Interventions to address this problem have become commonplace at medical centers nationwide. There is a plethora of evidence suggesting that mindfulness training promotes resilience and combats burnout and its associated symptoms. Programs like Mindfulness Based Stress Reduction and Mind, Body, Medicine have shown significant benefits in depression, anxiety, stress, wellness and overall well-being in multiple populations, including healthcare workers. While useful, these programs often require significant time commitments, are difficult to access, and come with a cost which can be prohibitive for participation by those in the healthcare field. The present study sought to introduce mindfulness to any interested healthcare workers at the University of Mississippi Medical Center (UMMC) in a brief and accessible way.

**Methods:** A 6-week, virtual introduction to mindfulness group was advertised to all healthcare workers at UMMC. Groups were held weekly in 40 minute sessions over the Zoom app with maximum group size of 12. During each session a new meditation topic was taught and practiced. Meditation topics included mindfulness of breath, body scan, guided imagery, loving kindness, and

mindful eating. Participants were asked to provide demographic information, estimate meditations per week, and answer the following surveys pre and post intervention; Perceived Stress Scale (PSS), Depression, Anxiety and Stress Scale (DASS-21), Mindful Attention and Awareness Scale (MAAS), and Well-Being Index (WBI). Post intervention they also completed LIKERT scaled questions measuring subjective enjoyment of the groups. Mean scores for each measure before and after intervention were compared using paired t-tests. Because seven independent measures were conducted, a Bonferroni correction was applied which rendered a significance threshold of  $p = 0.007$ . **Results:** 33 of 36 participants completed the group including both pre and post surveys with overall attendance of 84.3%. The mindfulness group produced significant increases in Meditations per week and MAAS ( $p = 0.001$ ) and significant decreases in PSS, DASS-21 (S), DASS-21(D), and WBI (all  $p$ 's = 0.0018). A trend for reduction was evident with the DASS-21(A), but the difference was not significant following the Bonferroni correction ( $p = 0.0081$ ). **Conclusion:** There was interest shown in a brief introduction to mindfulness group at UMMC. Participants reported enjoyment through subjective questions and showed improvements in stress, depression, well-being, and mindful awareness by objective measures. Results suggest that brief mindfulness interventions can be accessible for healthcare workers at academic centers and that participation results in improved symptoms of stress and burnout.

#### **No. 110**

##### **Acute Psychosis in a Newly Transitioning Female Veteran: Diagnosis and Acute Management Considerations**

*Poster Presenter: Sara McHenry, M.D., M.B.A.*

*Lead Author: Adam Yick-Young Chan, M.D.*

#### **SUMMARY:**

As defined by the American Psychiatric Association, gender dysphoria (GD), which refers to psychological distress that results from an incongruence between one's sex assigned at birth and one's gender identity should first be understood as separate from serious mental illness (SMI) in transgender people - and not a psychiatric pathology itself. It is well established

that gender minority populations face higher rates of SMI and increased rates of death and attempts by suicide. In regards to recent developments in understanding overlaps in neurocircuitry, various theories have been proposed to account for GD and related conditions suggesting that GD is associated with changes in cerebral lateralization and even neurodevelopmental and neurochemical differences. There is also growing evidence of clinical and phenomenological overlap with schizophrenia and GD, yet a sparsity of case reports in the literature breaks down these differences from acute psychotic symptoms. Our case presents a 51-year-old veteran who presented to the emergency department with complaints of mood and psychotic symptoms in the setting of ongoing substance use, untreated prostate cancer, and use of over-the-counter female enhancement supplements, with no previous family or personal history of schizophrenia. She additionally reported recently coming out as transgender within the past few months. During her hospitalization, the primary psychiatric team had to consider what, if any, ties existed between her psychotic symptoms and newly expressed gender identity. Gender affirming services were provided to this patient during her hospitalization, though systems-based rigidities created hurdles to providing this patient with consistently culturally competent care. We discuss these clinical considerations – best evidence-based practices, our experiences, and psychopharmacotherapy - in interactions with a newly-reported transitioning female veteran in the Veterans Healthcare Administration system and considerations for treating an acute psychosis from the emergency department to discharge from the acute inpatient psychiatric unit.

#### **No. 111**

#### **Mapping Consent Practices for Outpatient Psychiatric Use of Ketamine**

*Poster Presenter: Scott Lee, M.D.*

*Lead Author: David Mathai, M.D.*

*Co-Authors: Victoria Mora, Eric Storch, Ph.D.*

#### **SUMMARY:**

**Background:** Psychiatric applications of ketamine have gained traction in the last two decades following the first randomized control trial of

ketamine for depression (Berman et al., 2000) and subsequent replication trials (Zarate et al., 2006), contributing to the U.S. Food and Drug Administration (FDA) approval of esketamine, an isomeric form of ketamine, as an antidepressant and antisuicidal agent. However, many psychiatric uses of ketamine continue to be “off-label,” involving an unapproved indication or form of administration (Wilkinson, Toprak, et al., 2017). Thus, psychiatric providers administering ketamine must reconcile the benefits with the increasing risks of operating on regulatory margins. Given this increased liability, the informed consent process is especially important to not only mitigate risk (Paterick et al., 2008; Riley & Basilius, 2007) but also promote shared decision-making. We examined current informed consent processes from a convenience sample of outpatient ketamine clinics to identify areas of congruence with current evidence and opportunities for growth.

**Methods:** Using a rubric developed from existing practice guidelines, we conducted an exploratory analysis of informed consent documents (IC-Docs) from 23 American clinics offering ketamine as a psychiatric treatment. Domains assessed included clinic characteristics, clinical content, procedures, and syntax. **Results:** Participating clinics represented all four U.S. Census regions. The most common routes of administration were intravenous (15/23 clinics, 65.2%), intramuscular (34.8%), intranasal (21.7%) and oral (21.7%). Stated psychiatric indications included major depressive disorder (100%), post-traumatic stress disorder (91.3%), generalized anxiety disorder (60.9%), obsessive-compulsive disorder (56.5%), bipolar disorder (43.5%), and addiction (26.1%). Regarding clinical content and procedures, IC-Docs addressed most consent elements, though did so variably on an item-level. Areas of improvement included communication around long-term adverse effects (incomplete in 30.4%), treatment alternatives (missing in 52.2%), medical & psychiatric evaluation prior to treatment (incomplete in 78.3% & 70.0%, respectively), medical & psychological support during treatment (incomplete in 78.3% & 82.6%, respectively), adjunctive psychological interventions (missing in 56.2%), and subjective/dissociative-type effects (missing in 65.2%). Syntax-wise, all (100%) forms were limited by poor readability. **Conclusions:** As ketamine continues to emerge as a psychiatric

intervention, there is need for careful medical and psychiatric supervision of ketamine use (McIntyre et al., 2021; Sullivan et al., 2020; Wesley & Bennett, 2020). Patients and providers will benefit from a deliberate consent process informed by scientific, ethical, and pragmatic factors. Our findings provide broad orientation for improved informed consent of ketamine as an emerging psychiatric treatment.

#### **No. 112**

##### **Case Report: The Challenges of Assessing and Managing Dysphagia in Two Patients on Long-Term Clozapine**

*Poster Presenter: Scott Lee, M.D.*

*Co-Authors: Fe Festin, M.D., Demin Ma, M.D.*

#### **SUMMARY:**

**Introduction:** The risk of clozapine associated dysphagia is between 1/1000 and 1/10000(1). The associated complications of aspiration, pneumonia and mortality are also observed to be elevated with clozapine use(2). We present two cases illustrating the complex presentations of dysphagia in patients on clozapine. **Methods:** The first case is a 61-year-old male veteran with history of chronic schizophrenia admitted for worsening psychosis. He has been on clozapine up to 550mg since 2001, with clozapine/norclozapine levels at 452/232. Exam was remarkable for an AIMS score of 25. During admission patient reported odynophagia, dysphagia and a 40-pound weight loss. Initial workup revealed candida esophagitis. 21-day course of fluconazole yielded no improvement. Inpatient team did not increase dose due to concern for esophageal dysmotility. Manometry is pending at the writing of this case report, hydroxyzine was reduced and benztropine discontinued to reduce anticholinergic burden. The second patient was a 51-year-old female with history of schizoaffective disorder, chronic PTSD, alcohol use disorder, bulimia nervosa, temporal lobe epilepsy, iron deficiency anemia, and GERD. Patient was on clozapine from 2009 until 2016. In 2015, she reported dysphagia worsening for one year with solid food dysphagia, choking, and sialorrhea. Oropharyngeal dysphagia was diagnosed and subsequent manometry revealed type II achalasia. Clozapine was discontinued within one year. Over subsequent years, patient's dysphagia

worsened and led to severe malnutrition. In 2020, she underwent Heller's myotomy with Dor fundoplication, with the expectation that dysphagia may remain given multifactorial etiology including polypharmacy. Patient also received a PEG tube. In 2020-2021, patient had more than 20 admissions for recurrent aspiration pneumonitis. In July 2021, she was admitted for replacement of a PEG tube and went into pulseless electrical arrest. Aspiration was cited as a factor in her death. **Discussion:** Dysphagia with antipsychotics can be mediated by multiple mechanisms including parkinsonism, acute dystonic reactions, tardive dyskinesia, sialorrhea, xerostomia, and sedation (2). Management approaches include reduction of clozapine and switching to another antipsychotic although these interventions may not reduce dysphagia. Aspiration on clozapine leads to a release of cytokines which can increase serum concentration of clozapine and in turn, side-effects(3). **Conclusion:** These two cases illustrate the challenges in assessing and managing dysphagia in patients on clozapine. In both cases, dysphagia became an issue years after initiation of clozapine. In the first case, the veteran's dysphagia was likely mediated by tardive dyskinesia and oversedation. In the second case, sialorrhea, oversedation, and multiple comorbidities contributed to dysphagia . More systematic studies are needed to better characterize the risk of clozapine associated dysphagia and treatment approaches.

#### **No. 113**

##### **Improving the 1-Year Depression Remission Rate in Primary Care**

*Poster Presenter: Jenny Xiao*

*Co-Authors: Cyle A. Johnson, M.D., Alisandrea N. Elson, M.D., Shannon Kinnan, M.D.*

#### **SUMMARY:**

**Background:** Major depressive disorder (MDD) is one of the most common psychiatric illnesses in the United States with an estimated prevalence of 7.1% in US adults.<sup>1</sup> The goal of MDD treatment is full remission, which is defined as a 2-month period with no significant signs or symptoms of MDD.<sup>2</sup> The patient health questionnaire-9 (PHQ-9) is a validated rating scale utilized for depression symptom tracking, with scores <5 translating to full remission.<sup>3</sup>

The primary aim of this quality improvement project was to improve the 1 year depression remission rate at a primary care clinic. Methods: A multidisciplinary workgroup met to discuss solutions in an iterative manner. Interventions to improve and obtain updated PHQ-9 scores were implemented among adult patients throughout 2021. On 1/6/21, Information Technology updated the EHR system to increase PHQ-9 reminders for eligible patients by auto-adding depression to the problem list and generated two lists of patients: those with PHQ screenings due and those who were not in remission. Starting 6/1/21, therapists contacted patients with PHQ-9 due to perform PHQ-9 screenings and encouraged recommended treatment. The psychiatric care team reviewed charts to provide treatment advice to primary care providers (PCPs) on select patients. On 7/29/21 and 11/1/21, patient outreach via SMS text correspondence was conducted for patients who were not in remission and had not been in the clinic for 3 months. Annual depression remission was calculated from 2018 to the present on an ongoing basis and reported monthly. % of patients in depression remission was calculated by # patients who achieved remission, defined by a PHQ-9 <5, divided by # patients 12 years of age and older with a diagnosis of major depression or dysthymia with a PHQ-9 >9 during a primary care visit from 11/1/18-present. Results: As of 12/1/21, therapists contacted 315 patients and conducted 108 PHQ-9 screens during the telephone calls. 205 total SMS reminders were sent to eligible patients and 38 of these patients were seen by providers after outreach was performed. 297 medical charts were reviewed by the psychiatric care team. They determined 82 patients were receiving appropriate evidence-based medical care and advised PCPs on 76 patients. The primary care clinic's annual depression remission rates were 6.6% in 2018, 7.1% in 2019, and 11.87% in 2020. Steady improvement was observed throughout 2021 with the implementation of quality improvement strategies with the most recent % of patients' depression remission recorded as 14.8% on 11/30/21. The clinic is on course to reach an annual depression remission rate much improved from previous years. Conclusion: Improvements used a multidisciplinary approach incorporating the use of IT, therapists, psychiatric consultants, and primary

care clinicians. The project team will examine each of the interventions in more detail and communicate what has been effective with improving depression remission.

#### **No. 114**

#### **The Longitudinal Clinical Experience in a Psychiatry Residency Training Program: Updated Qualitative Perspectives**

*Poster Presenter: Kathryn Kinasz, M.D.*

*Co-Authors: Caitlin Hasser, M.D., Erick Kwan Jo Hung, M.D., Kerry-Ann Pinard, M.D., Alissa Peterson, M.D.*

#### **SUMMARY:**

Background: Longitudinal models of clinical care and education in graduate medical education and training allow residents to see outpatients over the course of their training rather than in truncated blocks. These experiences can positively impact the patient and provider in terms of health outcomes, improved mortality, satisfaction, reduced cost, and motivation. While residency programs have seen an increase in longitudinal clinical experiences (LCEs) in primary care, less is known about such opportunities in psychiatry residency programs. Purpose: This qualitative study explored the impact of a longitudinal training model on clinical skills development, relationships in the learning environment, and professional identity development. Methods: The authors examined the impact of a well-established LCE clinic model in a single, large, academic psychiatry residency program. The authors conducted 22 semi-structured interviews of residents, graduates, and faculty in a sample of 3 LCE clinics. Interviews were transcribed then analyzed using exploratory inductive thematic analysis. Results: Interview transcript review led to the development of the following parent codes: structure and design, clinical skills and systems development, relationships and community, and professional identity development. Within each parent code, authors produced more granular child codes which were then used to consistently analyze all transcripts. The resulting themes can be categorized into benefits and challenges. Benefits include early outpatient exposure, longitudinal relationships with patients, peers, and faculty, skill

development, increased patient population expertise, graduated independence and responsibility, career interest development, solidification of identity, near-peer teaching and leadership, and improved feedback. Challenges included system logistics such as mastering multiple different electronic health records, travel to sites, panel management obstacles, and intermittent presence of more junior trainees. Discussion: Results suggest that overall, residents and faculty find the LCE a positive learning opportunity that has contributed to their professional development. In line with findings from pediatric and internal medicine LCEs, these experiences lead to enriched feedback, patient population expertise, prolonged mentorship, resident autonomy, and promotion of trust. LCEs do appear to have logistical challenges which can interfere with favorability of resident experience. Conclusion: The LCE enhances psychiatry resident training. Concrete strategies to minimize logistical challenges around managing patient care responsibility and transitions across systems of care will support the success of a longitudinal program. As remote work and telehealth increases, residency programs have an opportunity to address logistical challenges while continuing to enrich training through longitudinal programs.

**Monday, May 23, 2022**

## Poster Session 5

### No. 1

#### **323 Lives That Matter: Racial Inequities of Firearm Injuries in an Underdeveloped Urban Scenario**

*Poster Presenter: Julio C. Nunes, M.D.*

*Co-Authors: Caio M. Perret, M.D., Barbara C. Pilon, M.D.*

#### **SUMMARY:**

**Background.** Firearms are the main lethal means in the context of homicide. Latin America is a region of interest when studying this subject because it has the highest homicide rates in the world. Racial inequalities are significant determinants of socioeconomic status and could be the cause for differences in exposure to firearm projectiles. **Aims.** We aim to determine racial trends for firearm homicidal violence in a reference trauma facility at

the periphery of Rio de Janeiro. We also intend to determine racial differences in topography regarding the projectile point of entry. Finally, we discuss socio-cultural characteristics that may explain those trends and how they compare to international literature. **Methods.** We studied 323 cases of firearm injured patients between December 2019 and July 2020. The following variables were included in each case: race, age, gender, period of in-hospital stay, mortality outcome, time from admission to death, penitentiary discharge, number of projectiles, and body location of the firearm injury. Race was defined by civil registration, when available, or staff consensus upon admission. Statistical analyses considered two racial subgroups: "White/Mixed-Race/Black" and "White/Non-White". **Results.** "Black" race was found to be an independent risk factor for "Overall deaths" (HR 2.23 [1.05;4.72]). "Firearm injury to the skull", and "male sex" were found to be independent risk factors for both "Death within the first hour of admission" and "Overall deaths". "Firearm injury to the skull" was also found to be an independent risk factor for the "Death during in-hospital stay" endpoint. "Firearm injury to the hand/foot" was found to be an independent protective factor for both "Death within the first hour of admission" and "Overall deaths" endpoints. **Conclusion.** Non-white men are the majority of victims of firearm violence. On average, they are injured by a higher number of projectiles. In our analysis, among non-white patients, being black was an independent risk-factor for mortality. Injuries to the hand and feet are traditionally a method of punishment, and are protective for mortality, but require careful rehabilitation considerations.

### No. 2

#### **A Case of Ayahuasca-Induced Psychosis**

*Poster Presenter: Gema Medina Ojeda*

*Co-Authors: Teresa Jiménez Aparicio, Celia de Andrés Lobo, María Del Carmen Vallecillo Adame, Abril Gonzaga Ramírez*

#### **SUMMARY:**

**Introduction:** Different drugs and substances are known to may induce psychosis in certain patients without previous psychiatric symptoms. In this case, we are going to talk about the properties of

*ayahuasca* and the possible effects of its consumption. **Objective:** Presentation of a clinical case about a patient with psychotic symptoms after consuming substances (cannabis and *ayahuasca*). **Methods:** Bibliographic review including the latest articles in Pubmed about substance-induced psychosis, and research on the properties and effects of *ayahuasca*. **Results:** We present a case about a 55 year-old women, who worked as Reiki and meditation teacher. She used to consume cannabis, but she denied use of other toxic substances. She had no psychiatry antecedents. The patient went to the emergency room, and she reported memory loss, insomnia and strange thoughts since she had returned from her vacation. She said that she had smoked some joints and that she had consumed another substance, which was later known to be *ayahuasca*. Initially, the patient was calm and collected, but then she began to cry and scream desperately. She said that she remembered that “someone was going to hurt her” and that “a dog was looking at her intensely”. A brain computed tomography scan was performed, which was absolutely normal. *Ayahuasca* is commonly used in some shamanic rituals and ceremonies among indigenous peoples of South American. It is reported that this substance may produce mystical experiences and spiritual revelations, according to some consumers. The patient was hospitalized. Her symptoms fluctuated greatly during her hospital stay. We started treatment with Olanzapine and Lorazepam, and she eventually began to feel better. She was diagnosed with a substance-induced psychotic episode. At this time, the patient is following up in psychiatric consultations. She stays asymptomatic and she takes the treatment correctly. In addition, she has completely stopped using substances. **Conclusions:** Some drugs and substances may induce psychotic symptoms in certain patients without previous psychiatric history. *Ayahuasca* is commonly used in South America for shamanic rituals and ceremonies, and it may produce “mystical experiences”. It is important to reevaluate these symptoms after the acute intoxication. In some cases it is necessary to initiate antipsychotic treatment, and it would be advisable to follow up these patients in consultations.

### No. 3

#### Schizophrenia in High Functioning Individuals

Poster Presenter: Ajay Nair, M.D.

Co-Author: Henry Nasrallah

#### SUMMARY:

Background ? Impaired cognition has been considered a core feature of Schizophrenia ever since Emil Kraepelin first described the disease as dementia praecox in the 1890s. And although further characterization of schizophrenia has yielded many additional domains of the syndrome (such as negative symptoms), cognitive impairment has remained a major component of Schizophrenia, even in the premorbid phase (MacCabe 2008). Interestingly, a small segment of schizophrenia patients have good-to-exceptional neurocognitive abilities, and we decided to review the literature on this high-cognition subgroup of schizophrenia in order to identify any differences in their clinical features, family history, response to treatment and functional outcome. ? ? Methods? A search was performed on the PubMed database using combinations of the following keywords and phrases: “schizophrenia,” “good cognition,” “high IQ,” “high intelligence,” “high functioning,” “valedictorian,” and “psychosis.” Papers were collected and categorized based on types of study, sample size, cognitive measurement tool, and clinical findings. Studies were analyzed in order to characterize patients with high IQ schizophrenia, specifically: disease onset, treatment response, outcomes, and confirmed cognitive decline following the onset of psychosis. ? ? Results? Schizophrenia patients with high intelligence have some unique characteristics, the most common of which were minimal negative symptoms, increased affective symptoms (particularly depression), and increased insight. ? ? Discussion? Schizophrenia is now recognized as an extremely heterogeneous neurodevelopmental syndrome with hundreds of genetic and environmental etiologies. Thus, it is not surprising that there are many biological and clinical subtypes of schizophrenia, one of which has high neurocognitive performance. Some features of this cognitively intact or superior subgroup, including the dearth of negative symptoms, increased capacity for insight, and a predominance of affective symptoms, have been consistently characterized, and others,

such as fewer delusions and/or hallucinations, have also been reported. However, many aspects of these patients still need to be characterized to understand whether they are outliers with regards to intelligence, or whether they have a more benign course and outcome, including vocational functioning. Such individuals may represent a distinct disease process, unlike the majority of patients with schizophrenia. Further investigation of schizophrenia patients with unus

#### **No. 4**

##### **Are Comorbid Depression and Anxiety, Separate Monolithic Disorders - or Are They Just Concomitant After-Effects of Traumatic Life Events?**

*Poster Presenter: Shrirang Sadashiv Bakhle, M.B.B.S.*

#### **SUMMARY:**

**Background** Depression is increased intensity of sadness and/or loss of happiness. Anxiety is a type of fear. Anger frequently complicates depression and anxiety. Many studies have shown high comorbidity of these emotion dysfunctions. (1) Many studies have demonstrated that traumatic life events (TLE) act as etiological factors for these disorders. (2) **Aims and method** The paper explores how TLEs produce these 4 basic emotions concomitantly. The paper also discusses whether these disorders are separate monolithic entities – or they are just different aspects of TLEs. **Discussion** Each TLE has many facets: what all has happened, what/who caused it, what is likely to happen, what will be the consequences of different actions, will it occur again. Sadness is related to the harm that has already happened or is inevitable. Fear is related to the harm that is likely to happen. Anger is directed at the perceived cause of the problem. Since the TLE antagonizes wishes, it leads to loss of happiness. Thus, a single TLE can give rise to these 4 emotions. When the person focuses the attention on different facets of the event, it leads to different emotions. Over time, the person can develop multiple emotion dysfunctions arising out of the same event. However, the criteria for individual disorders list separate emotion dysfunctions. For example, the DSM-5 criteria for MDD and Anxiety Disorders. (3) **Conclusion** The 4 emotion dysfunctions can arise out of the same TLE. Which of these dysfunction/s

develop in a particular patient depends on the facet/s of the traumatic event that attract attention of the person more. If the etiology of all these dysfunctions is the same event, should we consider them as separate monolithic disorders? The concept of ‘comorbid disorders’ arises because each disorder is defined as specific pattern of dysfunctions. Hence, if a patient has more dysfunctions, s/he is given the diagnosis of another disorder. Rather than diagnosing multiple disorders, we should collect the list of all the dysfunctions that each patient has. This can be called the Whole Patient Diagnosis. Finally, every patient’s treatment is decided by considering all the dysfunctions present in the patient.

#### **No. 5**

##### **Association Between Working Hours and Depressive Symptoms Among Korean Employees: Kangbuk Samsung Workplace Mental Health Study**

*Poster Presenter: Eunsoo Kim*

*Lead Author: Kang Seob Oh*

*Co-Authors: Sang Won Jeon, Heejun Lee*

#### **SUMMARY:**

**Background:** Many studies have reported notable increases in the proportion of employees working excessively long or short hours. Such trends have provoked concerns about the ways in which the subjective mental well-being of employees is influenced by their working hours. This study investigated the association between working hours and depressive symptoms, adjusting for demographic variables. **Methods:** Participants were employees, aged 19 to 65 years, of 56 private companies and local government organizations in Korea. A self-report questionnaire that measured working hours, job stress, depression levels, and socio-demographic factors was administered to 15,360 Korean employees, from whom 14,477 valid responses were obtained. Hierarchical linear regression analyses were performed to examine the association between working hours and depressive symptoms. **Results:** We found that working more than 40 hours per week correlated positively with depressive symptoms after adjusting for demographic variables and the level of job stress. Furthermore, working 40 or fewer hours per week correlated negatively with depressive symptoms.



Being younger ( $\beta=-.078$ ,  $\beta=-.099$ ), being a woman ( $\beta=2.770$ ,  $\beta=1.268$ ), and possessing a lower level of education ( $\beta=-.315$ ,  $\beta=-1.125$ ) were significantly associated with more depressive symptoms in all respondents. Conclusion: Working excessively long or short hours is significantly associated with the prevalence of depressive symptoms. Establishing proper office hours for employees is critical to improving the quality of working conditions and maintaining good mental health in the workplace.

#### No. 6

##### **Association of Cerebral Amyloid Deposition and Blood Amyloid- $\beta$ Oligomerization in Community-Dwelling Older Adults Without Dementia**

*Poster Presenter: Woo Jung Kim, M.D.*

*Co-Authors: Jaesub Park, M.D., Jin Young Park, M.D.*

#### **SUMMARY:**

**Background:** The importance of early detection in preclinical Alzheimer's Disease (AD) is growing, with aducanumab being FDA-approved as the first disease modifying drug for AD. For mass screening of pre-/clinical AD, a multimer detection system-oligomeric amyloid- $\beta$  (MDS-OA $\beta$ ) test that measures A $\beta$  oligomerization tendency may be advantageous in terms of considering economic feasibility. We conducted this study to examine the usefulness of MDS tests in non-dementic older adults living in the community. **Methods:** All participants (cognitively normal 65, subjective cognitive decline 61, mild cognitive impairment 25) underwent baseline survey, neuropsychological battery, structural and functional brain MRI, and amyloid PET with MDS-OA $\beta$  test using their peripheral blood. Standardized uptake value ratio (SUVR) was calculated using whole cerebellum as a reference. Voxel-wise whole brain analyses and region of interest (ROI) based analyses were performed using SPM12. For voxel-wise analyses, multiple linear regression model was calculated using plasma A $\beta$  oligomerization tendency as a covariate, and the statistical threshold was set uncorrected  $p < 0.001$  at voxel level with an extent threshold of 50 voxels. For ROI analyses, ROI were built based on clusters of the voxel-wise analyses. Pearson correlations were conducted to explore associations between SUVR of ROI and Subjective Cognitive Decline Questionnaire (SCD-Q). **Results:**

Participants were predominantly female (69.5%) and had an average age of  $73.07 \pm 4.21$  years. Cerebral amyloid deposition in bilateral superior frontal gyrus, medial (MNI coordinates: 4, 60, 8; cluster size = 210) and left inferior temporal gyrus (MNI coordinates: -60 -44 -24; cluster size = 69) were significantly associated with plasma A $\beta$  on voxel-wise analyses, respectively. The SUVRs of bilateral superior frontal gyrus, medial ( $r = 0.263$ ,  $p = 0.001$ ) and left inferior temporal gyrus ( $r = 0.288$ ,  $p < 0.001$ ) were significantly correlated with plasma A $\beta$  on ROI based analyses. Resting activity of left temporal inferior gyrus was correlated with subjective cognitive discomfort (SCD-Q score,  $r = 0.214$ ,  $p = 0.008$ ). **Conclusion:** The MDS-OA $\beta$  test showed association with cortical amyloid deposition in some areas, which have been identified important for cognitive impairment (esp. language function). Future studies with a larger number of subjects or a longer follow-up will be needed. **Acknowledgment:** This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2021R111A1A01040374) and by a faculty research grant of Yonsei University College of Medicine (6-2021-0088).

#### No. 7

##### **Asylum Medicine and Secondary Traumatic Stress**

*Poster Presenter: Rahul Vasireddy, M.D.*

#### **SUMMARY:**

Psychiatrists working with refugees and asylum seekers are often repeatedly exposed to the graphic emotional and physical trauma of their patients, both in routine clinical care and in the context of forensic asylum evaluations. Exposure to the victimization of others can induce a range of clinically significant symptoms. Burnout, secondary traumatic stress, and vicarious trauma are different concepts used to describe these reactions. Managing the emotional sequelae of trauma work can occur on individual and systemic levels. Case vignettes will demonstrate these concepts.

## No. 8

### **Biomarkers of Neurodegeneration and Their Role in the Management of Anti-N-Methyl-D-Aspartate Encephalitis**

*Poster Presenter: Fatima Chaudhry*

*Co-Authors: Amna Hameed, Kamran Tunio,*

*Mehrunnisa Fatima Gondal, Nauman Mazhar*

#### **SUMMARY:**

Background: Anti-N-Methyl-D-Aspartate Receptor Encephalitis (anti-NMDARE) is an autoimmune disease caused by the development of autoantibodies against NMDA receptors, first described in 2007. The disease is paraneoplastic and treatable, especially in its early stages, often manifesting in psychiatric symptoms (1). Currently, different diagnostic techniques, including imaging, CSF examination, and blood tests, are being used in the workup of anti-NMDARE. Some well-known biomarkers of neurodegeneration are Progranulin (PGRN), Total-Tau (t-tau), and Neurofilament light chain (NfL)(2-4). In this review article, we determine the role of biomarkers of neurodegeneration in diagnosing and planning the treatment of Anti NMDARE. Methods: Our search of databases primarily included PubMed and Google Scholar. The search, limited to the papers published after 2015, yielded 20 articles, but only 5 of these had all the search terms: NMDA, antibodies, encephalitis, CSF, biomarkers, treatment, and neurodegeneration. Results: The reviewed studies reported three markers of neurodegeneration: Total Tau (t-tau), Neurofilament Light chain (NfL), and Progranulin (PGRN). The first two markers were associated with neoplastic and paraneoplastic autoimmune encephalitis, with CSF-NfL levels correlating with hippocampal atrophy, long-term outcomes, disease severity, and prognosis favoring early and aggressive immunotherapy to prevent neuroaxonal damage. CSF-NfL levels also correlated with cytokines (IL-1 $\beta$ , IL-17A) levels in patients with anti-NMDARE patients. The plasma levels of the third marker, PGRN, not only correlated with the disease severity, but they were also higher during the acute phase of the disease in the untreated than the treated patients indicating autoantibodies against the NMDA-receptor. Conclusion: This literature review supports a direct association between the disease severity and CSF biomarkers of neurodegeneration in anti-

NMDARE patients. However, assessment of PGRN levels during the early phase of illness could facilitate an early diagnosis and timely treatment, which is extremely important to prevent clinically serious long-term outcomes in patients with anti-NMDARE. To further support the clinical significance of these markers in the management of anti-NMDARE, future prospective studies with larger cohorts are needed. <tbody> </tbody>

## No. 9

### **Brain on Fire: Neuropsychiatric Manifestations of Autoimmune Encephalitis, Evaluation and Management, a Case Series**

*Poster Presenter: Akriti Sinha, M.D.*

#### **SUMMARY:**

Importance: Autoimmune encephalitis (AE) refers to a group of neuropsychiatric conditions associated with specific circulating autoantibodies directed against synaptic receptors, neuronal cell surface proteins, and intracellular targets. Increased recognition of these disorders is of value as affected patients prominently feature cognitive impairment, behavioral disturbances, and seizures requiring multidisciplinary teams with early recognition often impacting prognosis. Observations: We will present 4 cases of Autoimmune Encephalitis illustrating the diversity in their neuropsychiatric presentations and their demographics. Case 1 is a 21- year- old female with initial diagnosis and treatment as Bipolar Disorder at inpatient psychiatric unit. Her CSF panel was positive for NMDAR antibodies and responded well to the standard treatment with no known relapses. Case 2 is a 47 –year- old male with psychosis, seizures and delirium who was positive for LGI1 and VGKC complex who had multiple relapses and was maintained on weekly methylprednisone and monthly IVIg. Case 3 is a 74- year- old male with delirium, slurred speech, ataxia and rigidity with Thymoma and CSF panel positive for GAD-65. Patient had relapse of his symptoms a year later when he was diagnosed with pulmonary adenocarcinoma. Case 4 is a 37- year- old with seizures, psychosis and catatonia who was negative for CSF autoimmune panel but was treated with empiric IVIg for Probable Anti-NMDAR Encephalitis with resolution of her symptoms. Conclusions: This retrospective case

series describes the clinical details of seven individuals with AE and overlapping neuropsychiatric symptoms. This series is limited in scope with a small number of cases and observational nature of findings which prevents specific conclusions from being drawn. Despite this limitation, we explore the nuances of variable presentations of this disease to inform a better interdisciplinary management and emphasize the gap areas that need rigorous research.

#### No. 10

##### **Brain Spirit Desks - the Intersection of Religion and Mental Health**

*Poster Presenter: Rick Peter Fritz Wolthusen, M.D., M.P.P.*

#### **SUMMARY:**

*Introduction:* About 10% of Ghana's population is affected by mental illness. Initially, most of the affected patients seek the help of a religious or traditional institution. While some patients benefit from these consultations, for the majority of the cases it delays the diagnosis and hence the start of adequate treatment, which oftentimes causes a deterioration of symptoms and facilitates a chronic course of mental disorders. Additionally, some of the psychiatric patients are evidently treated inhumanely (e.g., dry fasting, chaining, torturing) in institutions like prayer camps. *Methods:* Through its Brain Spirit Desks (BSD), the German NGO On The Move e.V. offers decentralized mental health care through religious institutions. Our approach connects mental health care and spiritual wellbeing. As part of the BSD project, we train traditional and spiritual leaders as well as community members to help in the early identification of cases, provide humane integrated care and timely referral to mental health professionals, boost mental health resilience as well as support, and reduce stigmatization – in a spiritual community-based setting. Our educational modules look at mental illness through different lenses, including ethnopsychiatric approaches. *Results:* The vast majority of Ghanaians is spiritual or religious inclined and attend services regularly. That gives us an opportunity to regularly interact with patients and community members at risk for mental illness at a

low threshold. This approach is especially attractive because religious institutions are, in comparison to mental health facilities, not stigmatized. Research suggests that integrating spiritual belief systems and culturally appropriate laymen interventions may yield better and more meaningful treatment outcomes. *Discussion:* BSD can increase mental health care access because the concept respects traditional as well as westernized approaches and integrates existing structures.

#### No. 11

##### **WITHDRAWN**

#### No. 12

##### **Citicoline for cravings due to stimulants in bipolar disorder- Systematic Review of Clinical Trials**

*Poster Presenter: Sadia Usmani*

*Co-Authors: Sana Javed, Aiswarya Lakshmi Nandakumar, Amir Bishay Elshokiry, Shailesh Jain, M.D.*

#### **SUMMARY:**

**Introduction**: Substance use disorders are often comorbidly associated with psychiatric conditions including bipolar disorder and may have a substantial impact on its management. An over-the-counter supplement, Citicoline, has been studied in combating these issues. The focus of our review is to highlight the pharmacodynamics, benefits and risks of Citicoline use in bipolar patients suffering stimulant cravings.

**Methods**: We searched five electronic databases including clinicaltrials.gov using keywords, (citicoline) AND (bipolar disorder) AND (cocaine) OR (methamphetamine) OR (stimulants). Three randomized-clinical trials (RCT) were included

after deleting duplicates and evaluating based on our inclusion/exclusion criteria.

**Results**: In a 12-week RCT, 44 patients of bipolar disorder and cocaine dependence were treated with Citicoline. Biweekly urine drug screen was used to assess cocaine use. Treatment group had a significantly lower probability of a cocaine-positive urine test at the finish line ( $P = 0.026$ ). In another 12-week RCT by the same authors, 130 patients with bipolar I and cocaine dependence received Citicoline or placebo. Significant treatment group ( $p=0.022$ ) and group-by-time effects ( $p=0.015$ ) were observed concluding that Citicoline was more effective than placebo but only early on in treatment. The third 12-week trial of 60 adults with bipolar depression or major depressive disorder and methamphetamine dependence showed no difference in the treatment and placebo group.

**Conclusion**: Drug dependency increases the complexities of psychiatric illness, treatment may need to be tailored to address both conditions with adequate safety and benefit. Citicoline may effectively lower the addiction level in patients with dual diagnosis of bipolar disorder and stimulant abuse without any significant side effects.

**Keywords**

Citicoline, Bipolar Disorder, Cocaine, methamphetamine, stimulant.

### No. 13

#### Clinical Features of a Sample of Adolescents With Functional Disorders Hospitalized at a National Pediatric Hospital

Poster Presenter: Diana Molina, M.D.

Co-Author: Andres Arch, M.D.

#### SUMMARY:

Functional disorders are signs and symptoms that can not be attributed to another medical condition after appropriate medical evaluation. **Objective:** To describe frequency and clinical manifestations and psychological features in a sample of adolescents with diagnosis of functional disorders. **Methods:** Prospective study of 30 patients hospitalized for physical symptoms at a Pediatric Hospital were evaluated by specialized pediatricians and referred to the child psychiatry unit, after no medical condition were found. **Results:** The mean age of the sample was  $14.3 \pm 1.3$ . Neurological signs and symptoms were the most frequent functional disorders found in 22 (73%) patients of our sample. Chronic headache was the most common symptom in 19 girls (63.3%) overlapped with other symptoms such as; paralysis, followed by and functional movement disorders in 3 (10%). Neurologists asked for psychiatric consultation when no neurological cause was found. With a mean of 3.4 CNS imaging studies and 4.5 laboratory tests per patient. Functional gastrointestinal disorders (FGI) were found in 14 (47%) adolescents; 8 females (58%) and 6 male adolescents (42%), evaluated by the gastroenterology unit based in the Rome IV criteria. FGI disorders included combinations of overlapped chronic symptoms. The most common FGI condition was cyclic vomiting in 14 (47%) patients, followed by functional abdominal pain in 13 cases (43%). Mean number of emergency consultations in functional symptoms was  $3.1 \pm 3.2$ , and before psychiatric consultation a mean of  $4.9 \pm 2.3$  were performed. Hospitalization had a mean of 27.3 days per patient before setting diagnosis of psychosomatic disorder by psychiatry. Family dysfunction was found in 87% of the sample, with

exposure to parental violence scenes in 47% and parents separation in 40% of the families with father abandonment in 27% and maternal absence in 13%. Anxiety was found in 50% and depression in 40% of the sample. **Conclusions:** Neurological symptoms were the most frequent functional disorders (73%) followed by FGI disorders (47%). Symptoms can be overlapped. Almost a month passed before psychiatric consultation was asked for differential diagnosis. Psychiatric intervention can diminish hospitalization time and number of diagnosis procedures in these patients, with earlier diagnosis and treatment times and effective outcome.

#### **No. 14**

##### **Clozapine-Induced Carpopedal Lymphedema: A Case Report**

*Poster Presenter: Burak Uzay, M.D., Ph.D.*

*Co-Authors: Cengiz Arca, M.D., Tahsin Rollas, M.D., Irem Yildiz, M.D.*

##### **SUMMARY:**

Clozapine is an atypical antipsychotic drug, primarily used in the treatment of refractory schizophrenia. Despite its superior effects, clozapine has several life-threatening side effects. It can cause agranulocytosis (severe neutropenia), QT prolongation and myocarditis rendering its close surveillance vital. Clozapine has various targets, explaining its different side effects. Here, for the first time, we report an idiosyncratic drug reaction to clozapine, on the case of a 56 year-old patient with schizophrenia, who suffered from bilateral non-pitting hand and feet edema that started following clozapine use. The patient has been using levothyroxine (125 mcg/day), ASA (100 mg/day), prednisolone (5 mg/day), ezetimibe (10 mg/day), atorvastatin (10 mg/day), benidipine (4 mg/day), nebivolol (5 mg/day) when clozapine treatment was initiated and carpopedal edema developed around 4 weeks after the onset of the treatment when clozapine dose was increased to 100 mg. Following the development of edema, clozapine was stopped and switched to amisulpride. In addition, although the patient was using benidipine for more than 2 years without any complaints, benidipine was switched to telmisartan/hydrochlorothiazide, due to known common side effects of calcium channel blockers in

causing peripheral edema. Carpopedal edema persisted despite changes in medications, thus an extensive effort was made to identify the etiology of this edema and no abnormality was found. Eventually, patient was diagnosed with idiopathic carpopedal lymphedema. The patient started to use daflon (500 mg/day) and compressive garments that alleviated the edema at 1-year follow-up. Clozapine can potentially damage lymphovascular endothelium by impairing NO synthesis, decreasing L-arginine uptake and increasing lipid oxidation that results in increased reactive oxygen species (ROS). Clozapine-induced endothelial damage and increased permeability can be a potential mechanism of how lymphedema develops. Our observation can be explained as an idiosyncratic drug reaction or a complex drug-drug interaction that precipitated lymphedema through unknown mechanisms. Additional preclinical studies and controlled trials are to be performed to verify this observation.

#### **No. 15**

##### **Detecting Depression in Children and Adolescents With Chronic Physical Illness: Change in Diagnosis and Treatments**

*Poster Presenter: Corina Corina Ponce*

##### **SUMMARY:**

Abstract Depressive disorders are often familiar recurrent illnesses associated with increased psychosocial morbidity and mortality. Early identifications and effective treatments may reduce the impact of depression on the family, social, and academic functioning in youths and may reduce the risk of suicide, substance abuse and persistence of depressive disorders into adulthood. The prevalence of MDD is estimated to be approximately 2% in children and 4% to 8% in adolescents. Approximately 5% to 10% of children and adolescents have subsyndromal symptoms of MDD. Depression is common among young people with chronic physical illness and its impact on their quality of life is considerable. According to Ortiz-Aguayo and Campo (2009) "rather than being just another disorder suffered by a physically ill child, the relationship between physical disease and depression is often complex and bidirectional." As a result recognition and diagnosis of depression in chronically ill children

is often a challenge because there is the risk of misattributing symptoms of the physical disease (e.g., fatigue, poor sleep or appetite) to a mood disorder and vice versa. Evaluation of changes in functioning is essential. While treatment is as described for depressive episodes in other youth, medication is particularly well suited to the management of depression in medical settings but also has drawbacks, such as increased likelihood of adverse events and drug interactions, requiring careful tailoring. For example, SSRIs may increase the risk of gastrointestinal bleeding in children with coagulation disorders or in combination with non-steroid anti-inflammatory drugs. Objectives:- Describes the epidemiology, clinical presentation and treatments in children and adolescents with chronic physical illness. To assess depression in children and adolescents with chronic physical illness. Study design Describes cases reports children and adolescents with chronic physical illness for example (CNS pathology, Genetic syndrome, postoperative surgery, neuromuscular illness etc) and depressive disorders in period 2018-2019 ( high complex disease specialized hospital) Subjects aged 6-16 years from the chronic physical illness completed the Children s Depression Inventory ( CDI). Conclusions Depressive disorders are often familiar recurrent illnesses associated with increased psychosocial morbidity and mortality. Depression is common among young people with chronic physical illness and its impact on their quality of life is considerable. Depending on the severity and chronicity of the youth's depression and other factors, use antidepressants first-line the selective serotonin reuptake inhibitors (SSRIs) and/or psychotherapy ( cognitive- behavioral therapy and interpersonal psychotherapy during the acute phase).

**No. 16**  
**Effectiveness and Cost-Effectiveness of Acute Psychiatric Treatment at Home (HT) Compared to Acute Inpatient Treatment**

*Poster Presenter: Karel Joachim Frasch, M.D.*

**SUMMARY:**

**Background:** Psychiatric home treatment (HT) is a psychiatric intervention for patients in acute crisis

which is provided by multi-professional outreach teams in the patients' living environment as an alternative to inpatient treatment. Despite of good international evidence for both effectiveness and cost-effectiveness of HT it is only occasionally offered and systematically evaluated in Germany to date. The Swabian HT Service has been developed particularly for application in rural catchment areas in Germany. In this study, effectiveness and cost-effectiveness of HT in comparison to inpatient treatment (IPT) for patients with mental disorders in acute crisis will be investigated under real world conditions of the German health care system.

**Methods:** Since HT is already implemented in routine mental health care in our region, patients cannot be randomly assigned to study groups. Therefore, a controlled prospective observational study will be conducted following 120 patients in an acute crisis receiving either initially HT (n = 40) or IPT (n = 80) over 12 months. Treatment outcome will be measured at admission and at six and twelve month follow-up: Primary outcome criterion is the severity of clinical and psychosocial impairment (HoNOS-D). Secondary outcome indicators are empowerment (EPAS), treatment satisfaction (ZUF-8), quality of life (WHOQOL-BREF / EQ5D-VAS), safety (HoNOS-D and documentation in patient records) and burden on relatives (IEQ). Health service use and total costs of illness will be assessed by means of the Client Services Receipt Inventory (CSSRI). Mixed-effects regression models with propensity score adjustment for selection bias control will be computed for each outcome indicator including effects of time, treatment, and time\*treatment interaction. **Results:** To date, 58 persons (HT=31, IPT=27) consented study participation of which 40 (HT=22, IPT=18) participated also at six month follow-up. Participants were 47 years old (sd 14) and 18 (31%) were male. While 33 (57%) had an affective disorder, 19 (33%) had a schizophrenia spectrum primary diagnosis. Preliminary results of mixed effects regression analyses revealed that empowerment, quality of life, HoNOS and treatment satisfaction improved significantly between baseline and six month follow-up while no differences between treatment groups were found. **Conclusion:** Preliminary study results reveal that HT is as effective as IPT for patients in acute psychiatric crisis regarding the improvement of empowerment, quality of life and clinical

impairment after six months. This suggests that the need for psychiatric inpatient treatment could be reduced by extending the provision of HT. However, for a final appraisal of HT the full results of the twelve month follow-up and those of the corresponding health economic evaluation will be needed.

#### **No. 17**

##### **Effectiveness of High-Dose Maintenance Therapy in Treatment-Refractory Schizophrenia**

*Poster Presenter: Muhammad Youshay Jawad*

*Co-Authors: Fauzia Arain, Umer Suleman*

#### **SUMMARY:**

**Background:** High-dose therapy with antipsychotic medications (APMs) frequently occurs in patients with treatment-refractory schizophrenia (TRS), especially those hospitalized in long-term forensic facilities.<sup>1</sup> Often, the justification provided for high-dose treatment is the different neurobiological nature of this patient population. Although high-dose therapy is often justifiably used to manage acute psychosis, high-dose maintenance therapy is only supported by few case reports and case series. In contrast, high-dose therapy has frequently been associated with adverse effects (AEs), such as extrapyramidal symptoms and hyperprolactinemia.<sup>2</sup> A growing number of studies report no benefits of high-dose maintenance therapy than the conventional and even lower antipsychotic doses.<sup>3</sup> However, such evidence is lacking in forensic patients hospitalized in long-term psychiatric facilities. This review presents a synopsis of existing literature on antipsychotic doses along with a retrospective analysis of dose-related clinical and functional outcomes in long-term hospitalized patients with TRS. **Methods:** This review presents a synopsis of existing literature on effective antipsychotic doses along with a retrospective analysis of the effectiveness of antipsychotic dose adjustments (mainly reduction) in patients from a long-term psychiatric facility. These participants (n=22) were incompetent to stand trial and were sent to a state hospital to restore their competency. Herein, the objectives behind dose adjustments were to regain competency to stand trial and get discharged from the facility. Due to lack of

consensus on dosing guidelines, the high-dose therapy was roughly defined as a dose >50% above average package insert dose. The treatment baseline was the day of dose optimization. **Results:** In our case series, 68% of the patients were stabilized and discharged after restoring their competency, following an average of 44.4% dose reduction. The average time to discharge was 2.3±0.78 months after 11 months of total hospitalization. Nine percent of the patients treated sub-therapeutically required four months to discharge after the dose adjustments. The remaining patients, who were already receiving effective dosages, were discharged after an average of seven months of total hospitalization. **Discussion:** Patients with TRS often receive high-dose maintenance therapy without any long-term benefits in efficacy but instead intolerable AEs. Dose reduction after acute psychosis resolution optimizes patient outcomes, often due to amelioration in AEs. The findings from the reviewed studies are consistent with those from the case series and highlight the need to identify a minority of TRS patients who might benefit from high-dose therapy. However, every effort should be made to maintain patients on the lowest effective dosage to lower AEs and medication nonadherence and improve clinical and functional outcomes in this patient population.

#### **No. 18**

##### **WITHDRAWN**

#### **No. 19**

##### **Gender Differences in Suicidal Ideation Associated With Long Working Hours Among Korean Employees: Kangbuk Samsung Workplace Mental Health Study**

*Poster Presenter: Heejun Lee*

*Lead Author: Sang Won Jeon*

*Co-Authors: Kang Seob Oh, Eunsoo Kim*

#### **SUMMARY:**

**Objective** This study aimed to investigate the relationship between increased working hours and suicidal ideation of Korean full-time employees on the hypothesis that it will manifest varying characteristics between men and women. **Methods** Participants were employees from 54 companies and

local government organizations in Korea, aged 19 to 68 years, who completed a self-reported questionnaire comprising items on sociodemographic factors, daily-perceived stress, resilience, depressive symptom and suicidal ideation. Initial 15,360 respondents were collected, and we excluded participants who work less than 40 hours, because we defined the word 'full time worker' as workers who works more than 40 hours (Statutory weekly work hours based on the Korea Labor Standards Act are 40 hours). The final sample size was 9,326 (5,652 males, 3,674 females). The sociodemographic factors and psychological characteristics of participants according to the presence or absence of suicidal ideation were analyzed with Student's t-tests for continuous variables, and chi-square test for categorical variables. Hierarchical logistic regression analyses were performed using suicidality as the dependent variable. Results In univariate analyses, suicidal ideation was related to an increase in working hours. In the hierarchical logistic regression analyses considering the influence of sociodemographic factors and psychological factors, there was no association between long work hours and suicidal ideation for the entire group of participants. However, in the analyses for each respective gender, there were significant differences between men and women. Long working hours were associated with suicidal ideation only for men, while it was a non-significant factor for women. Conclusion In this study, we found that suicidal ideation was associated with long working hours among Korean male full-time workers. For female workers, the study suggests that other factors may be more associated with suicidal ideation. These differences indicate that suicide prevention measures for employees should be developed by gender.

#### **No. 20**

##### **Half a Century Surviving With Shrapnel Within the Brain**

*Poster Presenter: Muhammad Sayed Inam, M.B.B.S., M.Phil.*

#### **SUMMARY:**

Case History: Mrs. N is a 65-year-old woman hailing from the urban with the complaints of self-talk,

hearing of unknown voices and suspecting of family members. According to the patient attendant, half a century ago, during the Liberation War of Bangladesh, one of the shells accidentally exploded in their backyard. Unfortunately, a few pieces of shrapnel penetrated her arm, leg and right side of the head. She lost her consciousness and was taken to the hospital. She cannot memorize details of her treatment and can't show any treatment records. Last 50 years, she has led an almost normal life except movement difficulties and weaknesses of the upper and lower limbs. Her daughter informed that patient sufferings have intensified gradually. She has been experiencing headaches, dizziness and vomiting. Recently, she started to forget everything. Two months back, she drank some insecticide mistakenly. Her memory loss is short-term in nature. She also suffered from insomnia and often cried out from sleep. She talks continuously and complains about hearing unknown voices. The voices were talking about her. She also started to suspect her family members and claim that they were conspiring to kill. As her suspicion, irrelevant talk and odd behavior worsened, her family members took her to Psychiatrist for treatment. She also got convulsions two or three times in the last 50 years, which were brief and generalized. Furthermore, she didn't take any medication for this convulsion. Considering her past traumatic brain injury, an X-ray skull was advised. Surprisingly, it showed a metallic foreign body (shrapnel) lodged within her skull. Furthermore, a CT scan of the brain was advised, and there was "An irregular bony gap at right parietooccipital area, artifact (shrapnel) at right frontal area, extensive encephalomalacia in right cerebral hemisphere that formed porencephaly communicating with lateral ventricle. She is non-diabetic, non hypertensive non anemic or icteric. She was advised on Risperidone 2mg daily at night, and her psychosis was controlled.

#### **No. 21**

##### **High Doses of Second-Generation Long-Acting Antipsychotics in Patients With Severe Resistant Schizophrenia. a Six-Year Mirror-Image Study**

*Poster Presenter: Juan J. Fernandez-Miranda*

*Co-Author: Sylvia Díaz*



## SUMMARY:

**Background** This study explores whether high-dose treatment with second-generation antipsychotic long-acting injectable (SGA LAI)<sup>1,2</sup> may benefit patients with schizophrenia that are inadequately controlled on a standard dose<sup>3-5</sup>. The objectives of this study have been to evaluate the retention, effectiveness and tolerability of high doses of SGA LAI formulations in the treatment of patients with severe resistant schizophrenia. **Methods** A 72-month observational, mirror-image study of patients with severe (CGI-S=5) resistant schizophrenia receiving treatment with =75 mg of risperidone long-acting injectable (RLAI) (N=60), =175 mg of monthly paliperidone palmitate (PP) (N=60), and =600 mg of aripiprazole once-monthly (AOM) (N=30). All of the patients were previously treated with at least two different APs, with poor outcomes. Patients were eligible if deemed likely to benefit from treatment with SGA LAIs: at risk of medication non-compliance, with a lack of effectiveness, or adverse effects with previous APs. Assessment included the CGI-S, the WHO-DAS, the Medication Adherence Rating Scale (MARS), laboratory tests, weight, adverse effects reported, reasons for treatment discontinuation, hospital admissions and suicide attempts. **Results** The average antipsychotic doses were: RLAI=111.2 (9.1 SD) mg/14 days; PP=231.2 (12.3 SD) mg.eq./28 days; and AOM=780 (120 SD) mg/28 days. Tolerability was good for all LAIs, reducing the side effects reported and the changes in biological parameters compared to previous treatments, especially in the AOM group. Weight and prolactin levels decreased in all LAI treatments, being statistically significant only among patients treated with AOM (p<0.05). Two patients discontinued treatment due to side effects with AOM, five with PP and nine with RLAI. There were four discontinuations with RLAI, two with PP, and one with AOM due to a lack of effectiveness (severe symptoms or hospital admission). After three years, the scores decreased in CGI-S (p<0.01) and in WHO-DAS in the four areas with all injectables. MARS increased with all LAIs (p<0.01), especially with PP and AOM. We have reported a statistically significant decrease in both hospital admissions (p<0.001) and suicide attempts (p<0.001) at the end of 36-month treatments, compared to the previous three years, without any difference across the three LAIs. In the previous

three years, 60 patients discontinued their AP treatment, and 11 during the three-year follow-up (p<0.0001). **Conclusions** Risperidone LAI, Paliperidone Palmitate and Aripiprazol once-monthly, at high doses, improved treatment adherence and outcomes (hospitalizations, suicide attempts, clinical severity, disability) of patients with severe resistant schizophrenia, with good tolerability, helping them to achieve clinical stabilization and better functioning. Therefore, we suggest that, in some illness critical conditions, high doses of SGA LAIs could represent an alternative to clozapine.

## No. 22

### Paliperidone Palmitate (PP) Every Three Months Treatment Compliance, Effectiveness and Satisfaction Compared to PP-Monthly in Severe Schizophrenia

*Poster Presenter: Juan J. Fernandez-Miranda*

*Co-Author: Sylvia Díaz*

## SUMMARY:

**Background** The long-term effectiveness of Paliperidone Palmitate Every Three Months (PP3M) in naturalistic studies lasting more than a year has never been studied<sup>1-3</sup>. And there are no specifically researches in severely ill patients<sup>3</sup>. Moreover, there are no studies to know if some patients need higher doses than labeled to get clinical stabilization, without intolerable side effects<sup>4,5</sup>. The present study compares, in a real-life setting, PP3M treatment compliance and satisfaction, effectiveness and tolerability, to PP1M in patients with severe schizophrenia previously stabilized with PP1M. And explores the doses needed to achieve the best outcomes and its tolerability. **Methods** A 24-month prospective, observational, study of patients with severe schizophrenia (CGI-S = 5 at the beginning of PP1M treatment) treated with PP3M after at least 2 years of stabilization with PP1M was carried out. All-causes for treatment discontinuation were recorded. Clinical severity of illness was measured with CGI-S scale; and treatment satisfaction with the Treatment Satisfaction Questionnaire for Medication (TSQM) and with a visual analogue scale (ranged from 1, not at all satisfied, to 10, extremely satisfied). Effectiveness was measured with the number of

psychiatric hospitalizations and with the CGI-S. Tolerability assessments included weight, adverse effects reported and laboratory tests (haematology, biochemistry and prolactin levels) All patients were undergoing treatment in a case managed program for people with severe mental illness, with psychosocial and pharmacological integrated approach. **Results** CGI-S at baseline was 4.1 (0.5), with significantly improvement after 24 months ( $p < 0.01$ ). Only three patients preferred change back to PP1M due to adverse effects. There were no voluntary discontinuations with PP3M treatment. Four patients were referred to hospital psychiatric ward due to decompensation (in the previous two years, nine). There were neither significant changes in weight or prolactin levels nor biological parameters alterations, although both decreased. And lower incidence of parkinsonism (treated), sedation and orthostatic hypotension was reported. There was an increase in TSQM ( $p < 0.01$ ) and VAS ( $p < 0.001$ ) between 1M and 3M PP treatment. Reasons reported for higher satisfaction were less injections/year, less sedation and lower feeling of being medicated. No statistical differences between groups (standard vs. high doses) were found. **Conclusions** Apart from somewhat better treatment adherence, effectiveness (lower severity of illness and fewer hospitalizations) and tolerability, patients with severe schizophrenia lengthy treated with PP1M showed more satisfaction with PP3M. These outcomes were no different in those patients who needed high doses to get clinical stabilization. So this formulation allows patients not only to improve treatment outcomes but also to feel more satisfied with it.

## No. 23

### **How Social Determinants Mediate the Effects of Covid-19 Pandemic on Mental Health: A Case Report on the Emergence of Psychotic Symptoms**

*Poster Presenter: Lepri Assunta, M.D.*

*Lead Author: Sara Bianchi*

*Co-Authors: Eleonora Valentini, Patrizia Moretti, Alfonso Antonio Vincenzo Tortorella*

#### **SUMMARY:**

The outbreak of the Coronavirus disease 2019 (COVID-19) pandemic led to serious socio-economic

consequences, thus setting the stage for long-lasting mental health impacts [1]. After the pandemic onset, several cases of psychosis were reported, concerning both symptom exacerbation in subjects with a previous psychotic disorder and the onset of new cases [2]. We present a case exploring the link between pre-existing longstanding social risk factors for mental health problems and the onset of psychotic symptoms during the pandemic. Ray is a 61 year-old man, without a previous psychiatric history. He was followed by social services for several years, due to his poor environmental context: Ray is the only, unwanted child of a peasant male-dominated family. He reported a history of violence and abuse during his childhood and a positive familiar history for alcohol-related disorders. In this poor cultural contest Ray didn't finish primary school. During his young adulthood, he started to present a alcohol-related disorder as well. Nevertheless, with the help of Social Services, he obtained primary school licence, also being able to live alone, to integrate into the local community, and to obtain several small jobs. After the COVID-19 pandemic outbreak, he lost many social connections. During the lockdown period, Ray experienced social isolation and increased alcohol consumption, resulting in self-neglect. Ray showed behavioural alterations due to alcohol consumption, with verbal aggressions and threats directed towards the female condos. Subsequently, thought content disorders consisting of paranoid delusions and ideas of reference were detected in May 2020 by the territorial service for mental health, alerted by the social services and compulsory inpatient treatment was disposed. Blood alcohol was undetectable and toxicology reports were negative. After this hospitalization he promptly recovered, then returning back home. Unfortunately, after a while Ray stopped taking medications and dropped out at follow-up. During the second pandemic wave, a relapse occurred and a new compulsory inpatient treatment was necessary. As before, no alcohol or drugs were detected by blood examinations. The symptoms consisted of paranoid and erotomaniac delusions and indirect signs of hallucinations. Blood tests revealed macrocytosis, B12 and folic acid deficiency but the exams to investigate a Wernicke's encephalopathy were negative. Pharmacological treatment with a long-acting injectable

antipsychotic, a mood stabilizer, and a benzodiazepine was started. At discharge, Ray entered a residential facility, where he still lives. He is in good physical and mental health conditions, and his return back home is planned in the near future. We assumed that the pandemic worked as a second hit on a pre-existing predisposition for mental illness, directly derived from the disruption of permeant social determinants of mental health that was present since his early childhood [3].

#### **No. 24**

##### **Impact of Covid-19 Pandemic and Lockdown Restrictions in Suicide Attempts in Oviedo, Spain**

*Poster Presenter: Luis Jimenez-Trevino*

*Co-Authors: Elisa Seijo-Zazo, Jennifer Fernandez-Fernandez, Javier Caballer García, Pilar Sáiz*

#### **SUMMARY:**

**Objective:** The potential impact on suicidal behaviour of the COVID-19 pandemic and the measures taken to control it have been the subject of substantial professional and public concern, with numerous predictions and claims in the media and on social media of a large rise in suicide as a result of “lockdown” restrictions. To measure the real impact in suicide attempts, we have registered all suicide attempt presentations at a General Hospital in Spain during year 2020. Lockdown in Spain was imposed on 14 March 2020 through 21 June 2020. **Methods:** A total of 337 suicide attempt presentations [103 males (30.6%) vs. 234 females (69.4%)] were registered during the study period at the Emergency Room (ER) of Hospital Universitario Central de Asturias (HUCA) in Oviedo. Mean age (SD) of suicide presentations was 45.51 (18.315) for males and 43.33 (18,442) for females. There was no difference in mean age between males and females ( $p=0.145$ ). All suicide attempts from a catchment area of 331,676 people are admitted to the ER of this hospital. **Results:** The 337 suicide attempts attended at the ER make a cumulative incidence of 101.6 suicide presentations/100,000 people/year. Mean (SD) weekly suicide attempt presentations during 2020 were 6.48 (2.927). We found a significant reduction ( $p=0.021$ ) in mean (SD) weekly suicide attempt presentations between pre-lockdown [8.36 (4.342)], lockdown [6.79 (2.914)], and post-lockdown

[5.56 (1.695)] weeks. For the adolescents group (12-19 years) we used bi-weekly periods due to the low number of suicide presentations. Mean (SD) bi-weekly suicide attempt presentations during 2020 in the adolescent group were 1.54 (1.208). We didn't find differences in mean (SD) bi-weekly suicide attempt presentations between pre-lockdown [2.00 (1.265)], lockdown [1.43 (1.272)], and post-lockdown [1.38 (1.193)] weeks. Taken into account these results we divided the study period in pre-pandemic (until pandemic and lockdown was declared in Spain) and postpandemic. Using these two periods we found a significant difference in mean (SD) weekly suicide attempt presentations, with a reduction from pre-pandemic weeks [8.36 (4.342)] to post-pandemic weeks [5.98 (2.230)] Discussion: our results suggest a reduction in suicidal behaviours after COVID-19 interrupted in Spain. Suicide attempt presentations decreased during lockdown and stayed low during post-lockdown weeks of the COVID-19 pandemic in Asturias, Spain. A larger multicentric sample may be needed to find differences between sex or age groups. These results agree with recent research data on a decrease of suicide rates during the COVID-19 pandemic in occidental countries

#### **No. 25**

##### **Long-Term Efficacy and Safety of Deutetrabenazine in Postmenopausal Women With Tardive Dyskinesia**

*Poster Presenter: Henry Nasrallah*

*Co-Authors: Maria Chen, Mark Gordon, Stacy Finkbeiner, Hadas Barkay*

#### **SUMMARY:**

**Introduction:** Advanced age and female sex are among the known risk factors for tardive dyskinesia (TD). Decreased estrogen levels in postmenopausal women may also be implicated in TD. Deutetrabenazine (DTBZ), a VMAT2 inhibitor, is FDA-approved for the treatment of TD in adults. In two 12-week pivotal trials (ARM-TD & AIM-TD), DTBZ significantly improved Abnormal Involuntary Movement Scale (AIMS) scores, with a favorable safety profile. In the 3-year open-label extension (OLE) study, long-term DTBZ treatment was well tolerated and led to sustained improvement in abnormal movements. This post hoc analysis

assessed long-term efficacy and safety of DTBZ in postmenopausal women. **Methods:** Patients completing the pivotal studies were eligible to enroll in the OLE study, with DTBZ dose individually titrated up to 48mg/day (max) based on dyskinesia control and tolerability. This analysis included postmenopausal women, who were defined as being amenorrheic for  $\geq 1$  year with a serum follicle stimulating hormone (FSH) level consistent with postmenopausal status. Efficacy was measured by change from baseline in total motor AIMS score and treatment success on the Patient Global Impression of Change (PGIC) and Clinical Global Impression of Change (CGIC), defined as assessments of "much improved" or "very much improved". Adverse event (AE) rates were calculated as exposure-adjusted incidence rates (EAIRs; incidence/pt-yr). **Results:** The OLE study included 337 patients, including 188 women. Of these, 137 women were postmenopausal at baseline (mean age, 62.7y; 85% Caucasian; mean of 5.5y post-diagnosis, 67% taking DRAs), including 4 who were amenorrheic due to hysterectomy without FSH levels and were presumed postmenopausal due to age  $\geq 60$ y. In this sample, 52% had schizophrenia/schizoaffective disorder and 48% had mood disorders (bipolar/depression/other). Mean $\pm$ SE total daily dose was 38.6 $\pm$ 0.84mg at Wk15 and remained stable through Wk145 (39.3 $\pm$ 1.16mg). Mean $\pm$ SE change from baseline in total motor AIMS score at Wk15 (n=123) and Wk145 (n=77) was -4.5 $\pm$ 0.42 and -7.2 $\pm$ 0.52, respectively. At Wk15 and Wk145, 61% and 68% of patients achieved PGIC treatment success, and 63% and 82% achieved CGIC treatment success, respectively. EAIRs for overall AE incidences were low: any, 1.69; serious, 0.10; treatment-related, 0.41; leading to discontinuation, 0.05. EAIRs for AEs of interest (defined by standardized MedDRA query) were also low: depression, 0.09; suicide/self-injury, 0.03; akathisia, 0.02; Parkinson-like events, 0.13; torsade de pointes/QT prolongation, 0.01. EAIRs for preferred terms of somnolence and sedation were 0.05 and parkinsonism was 0.01. Results in this subgroup of postmenopausal women were generally consistent with the overall study population. **Conclusions:** Long-term DTBZ treatment provided clinically meaningful improvements in TD-related movements among postmenopausal women. DTBZ was generally

well tolerated, with no emergent safety concerns over long-term exposure.

#### No. 26

##### **Impact of Suicide Prevention Education on Police Officers' Attitudes Toward Suicide**

*Poster Presenter: Jinwoo Park*

*Co-Authors: Jeong Hye In, Shin Gyeom Kim*

#### **SUMMARY:**

**Objective:** We studied the effect of suicide-prevention education on police officers' attitudes toward suicide. **Methods:** Five hundred eighteen police officers participated in an anonymous questionnaire survey which included questions on demographic profiles, employment information, and psychiatric history. We used the *Attitudes Toward Suicide Scale* (ATTS) (1 = totally agree, 5 = totally disagree) to identify participants' perceptions of suicide. Our study divided participants into two groups, based on whether they had received suicide prevention education 'Watching, Listening and Speaking', the Korean program or not. Then we compared the differences in attitude after adjusting for possible confounding variables. **Results:** Police officers who had received suicide prevention training were significantly more likely to disagree with the ATTS factor "Suicide is unpredictable" (3.36 vs 3.35;  $p = 0.001$ ). Overall, the officers tended to show confidence toward suicide, regardless of their experience in the education program. **Conclusion:** Our findings confirm that police officers who have received suicide prevention education show greater confidence in predicting suicide. These results suggest that more opportunities for suicide prevention education need to be organized, including mandatory police training.

#### No. 27

##### **WITHDRAWN**

#### No. 28

##### **Interpersonal Violence Mortality Among Inpatients With Severe Mental Illness (SMI) in Brazil, 2000–2015**

*Poster Presenter: Ana Paula Melo, M.D., Ph.D.*

**SUMMARY:**

Background: People with severe mental illness (SMI) have a mortality rate 2.22 times higher than the general population, with a decade of Years of Life Lost. SMI are at increased risk mortality due to Interpersonal violence and the majority of these deaths is preventable. Most studies of Interpersonal violence among SMI occurred in high-income countries. Objective: To describe the risk of Interpersonal violence mortality in a nationwide cohort of inpatients with a primary diagnosis of severe mental illness (SMI) compared to inpatients with diagnoses other than SMI from 2000 to 2015 in Brazil. Methods: This national retrospective cohort included all patients hospitalized through the Brazilian National Health System (SIH-SUS Brazil) from January 1, 2000 thru May 31, 2015. Time of follow-up was measured from the date of the patients and first hospitalization until their death, or May 31, 2015. Probabilistic and deterministic record linkages integrated data from SIH and The National Mortality System (SIM). SMI were determined as a primary diagnosis at admission, codes "F20-F20.9, F25-F25.9, F30-F33.9, and F34.0-F34.1" according to the International Classification of Diseases (ICD-10). Interpersonal violence mortality was determined when the underlying cause of death was coded "X85-Y09.9, Y87.1" (ICD-10). The relative risk (RR) was calculated with 95% confidence interval (CI), comparing Interpersonal violence mortality, by sex and age, among SMI with those with other diagnoses. Results: A total of 74,502,438 patients were hospitalized in a public system, SIH-Brazil from 2000 to 2015 - 762,670 (1.02%) SMI and 73,775,768 (98.98%) with others disorders. Among 7,316,588 deaths registered in the period, 120,159 were due to Interpersonal violence. Among SMI, we detected 3,413 deaths due to Interpersonal violence. The relative risk of death due to interpersonal violence was (2.44, 95% CI= 2.36, 2.53) when comparing the two groups. Among men it was 2.14 (2.06, 2.22) and female 2.81 (2.58, 3.07). Finally, we found by age: 2.21 (95% CI= 2.1, 2.32) among 15-29 years and 1.9 (95% CI= 1.81, 1.99) among 30-59 years ( $p < .0001$ ). Conclusions: Our analysis indicates an excess risk of dying due to Interpersonal violence among SMI inpatients in Brazil. These findings highlight the fragility that SMI in Brazil are exposed to in relation to violence, especially in women and those less than

29 years of age. Prevention of interpersonal violence excess mortality should be considered a high public health priority among hospitalized patients in Brazil, with emphasis among SMI.

**No. 29****NO MAN IS AN ISLAND: Finding the Primary Care Facilities Closest to Psychiatric Patients, Improving the Accessibility to Their Treatment**

*Poster Presenter: Miguel Nascimento, M.D.*

*Co-Author: Joana Aguiar*

**SUMMARY:**

Background and aims: Access and social background are some of the biggest determinants, and PCF are the first line in the treatment and follow-up of all patients. Therefore, there is an increased need to strengthen the collaboration with PCF. The authors aimed to understand the frequency of psychiatric patients around each PCF, regarding overall number within a certain radius, diagnosis and psychiatric admissions (seen as a criterion for severity). Methods: Selection of all patients followed at Centro Hospitalar Psiquiátrico de Lisboa, between 2017 and 2019 ( $n=7622$ ), living in central and east Lisbon, Portugal. Identification of each patient's subsection of residency, using the latest Census data. Location of all 18 public PCF, measuring (using R statistics) the number of patients living within a 1km radius from each, including diagnosis, acute psychiatric admissions (voluntary and compulsory) and readmissions in the following year. Comparison of the data between each PCF. Results: There are 2 PCF that comprise more than 20% each of the total number of patients observed in a 1km radius, and 7 of them had at least 1000 patients. Out of the 18 PCF, the 5 with the biggest number of patients are always the ones with the biggest frequency of patients in all diagnosis, as well as psychiatric admissions (voluntary or compulsory), and with an average distance of 2.33 to 2.85km to those PCF. All PCR had an admission rate of around 15% compared to the overall number of patients. More than 10% of all PCF has had patients with more than one admission within the next year. The rate of compulsory admissions (versus voluntary) was between 31 and 44% between all PCF. Conclusions: In our sample, different PCF seem to present unique

characteristics regarding frequency and severity of psychiatric patients, allowing us psychiatrists to develop targeted measures towards better psychiatric care, not only helping our colleagues, but also through directed targeted activities. Considering that there are few psychiatrists, a global clinical effort will help the reduction of admissions and severity of episodes will lead to a better autonomy and quality of life, with fewer residual symptoms.

### No. 30

#### **Nutrition Priorities in Food Aid for Refugee and Displaced Communities: A Nutrition–Mental Health Paradox?**

*Poster Presenter: Sonia Navani*

##### **SUMMARY:**

**Background:** Food insecurity is increasingly recognized as a social determinant of mental health in protracted armed conflict settings. However, nutrition exerts a dual influence on mental health via epigenetic and social pathways. Nutrition is directly implicated in the gut-brain axis, critical in mental health etiology. In this context, early life epigenetic influences are fundamental to shaping mental health vulnerabilities in later life. In displacement dynamics, this is accentuated by dependence on how & when nutrition strategies are triaged by food aid actors, a social determinant of mental health, alongside differential dietary patterns based on age, gender & other power dynamics at intra-household levels. This raises new questions. Do current food aid nutrition strategies inadvertently create positive or negative influences in early epigenetic windows? This scoping literature review examines nutrition pathways on gut-brain health in two critical epigenetic windows: preconception windows for women of reproductive age (WRA) and early childhood periods. **Methods:** References were selected via multiple databases from 2011-2021. Eligible criteria were studies inclusive of food insecure non-pregnant WRA & children (<5 years) populations in stable & unstable settings and quantitative reporting on gut health, inflammation, nutrient status, and dietary patterns. **Results:** Studies evaluating micronutrient supplementation in early childhood have consistently demonstrated adverse alterations to gut microbiomes as well as exerting pro-inflammation

effects. Potential adaptations to counteract these effects, including probiotics, remain feasible, promising antidotes, but long-term effects & highly variable adaptation strategies across different conflict-affected settings remain unclear. Among WRA, preconception nutrient deficiencies are well documented, but nutrition intervention focus for WRA remains largely at pregnancy onset. Elevated micronutrient deficiencies in preconception periods may be explained by: 1) age, gender & intimate partner violence status influencing intra-household diet patterns and, 2) increasing dietary consumption of inexpensive, accessible foods based on Western diets, and in turn, increased rates of chronic inflammation and obesity among WRA in protracted conflict settings. **Conclusion:** This review provides two overarching findings. First, food aid nutrition policy & practice create the explicit potential for inter-generational amplification of mental health risks by omitting mental health etiological evidence. Second, more pronounced distinctions between food insecurity and nutrition insecurity pathways to mental health vulnerabilities will afford greater precision for intersectional interventions. Future research is poised to explore new lines of nutrition-mental health research to blunt mental health vulnerabilities in communities disproportionately impacted by mental health disorders in conflict settings.

### No. 31

#### **Hospital Admissions and Suicide Attempts in a Case-Management Program for Patients With Severe Schizophrenia Compared to Standard Treatment**

*Poster Presenter: Silvia Diaz-Fernandez*

*Co-Author: Juan J. Fernandez-Miranda*

##### **SUMMARY:**

**Background** Case management is a model of community intervention in people with severe mental illness. The key purposes of ICM are to improve outcome, reduce hospitalization, and prevent loss of contact with services. However, the debate about its effectiveness and superiority over other treatment models and standard treatment remains open<sup>1,2</sup>. And the role of LAI antipsychotics in these programs to help to reach clinical goals is also

opened<sup>3</sup> The objective of this study was to explore the hospital admissions and suicide attempts of patients with severe schizophrenia undergoing treatment in a community-based, case management program (CMP) with an integrated pharmacological and psychosocial approach compared to the standard treatment **Methods** An observational, longitudinal study was conducted with a ten-year follow-up of patients with severe schizophrenia (CGI-S = 5) treated in in mental health units (MHUs) or on a CMP (N = 688). Psychiatric hospital admissions, suicide attempts, and antipsychotic (AP) medications were recorded over ten years. Illness severity was measured with CGI-S at the start and at 1, 2, 5 and 10 years of follow-up. **Results** In the MHUs, 46.5% of the patients had at least one hospital admission, with an average of 3.2 (3.4), with 9.9% being non-voluntary, at an average of 0.5 (0.3). On the CMP, 17.4% of the patients were admitted to hospital, with an average of 0.9 (0.3), with 1.4% being non-voluntary, at an average of 0.01 (0.2) ( $p < 0.0001$ ). Hospital admissions were linked to treatment with OAPs, both in MHUs ( $p < 0.001$ ), and especially on the CMP ( $p < 0.0001$ ). Likewise, taking OAPs made it more likely that admission would be involuntary ( $p < 0.0001$ ). Suicide attempts were significantly fewer on the CMP: 85 patients in MHUs and 20 on the CMP ( $p < 0.0001$ ). The average number of attempts was 0.3 (0.1) and 0.07 (0.02), respectively;  $p < 0.0001$ ). There was a significant relationship between suicide attempts and OAP treatment (vs. LAI), both in MHUs ( $p < 0.01$ ) and particularly on the CMP ( $p < 0.0001$ ). Although CGI-S scores were higher in MHUs than on CMP at the beginning of treatment ( $p < 0.05$ ), there was a significantly sharper decrease in CMP patients at the end of the follow-up compared to those in MHUs ( $p < 0.005$ ). **Conclusions** The treatment of patients with severe schizophrenia on an integrated CMP recorded a higher decrease in hospitalizations and suicide behavior compared to standard care. Treatment with LAI antipsychotics was linked to these outcomes. A combination of case management and LAI AP medication contributed more to the achievement of clinical goals in these patients than standard treatment and oral APs.

## No. 32

### Treatment Adherence of an Integrated Community-Based, Case Management Program for Patients With Severe Schizophrenia Compared to Standard Care

Poster Presenter: Silvia Diaz-Fernandez

Co-Author: Juan J. Fernandez-Miranda

#### SUMMARY:

**Background** Although some studies have reported that case management (CM), when is compared with standard care, reduces the loss of contact with health services, the debate continues about its superiority over other treatment models<sup>1,2</sup>. Further research is still needed to confirm whether the CM approach and if long-acting injectables (LAI) APs (especially SGAs) confer advantages over standard treatment and oral APs (OAPs) in terms of improved adherence<sup>3</sup>. The aim is to assess treatment adherence and reasons for treatment discontinuation, and the impact of the administration of Aps on it, for a group of patients with schizophrenia treated on an intensive and integrated case managed program (CMP) for people with severe mental illness or receiving standard treatment in mental health units (MHUs). **Method** An observational, longitudinal study (ten-year follow-up) was conducted of patients with severe schizophrenia (Clinical Global Impression-Severity, CGI-S = 5). All the causes of the end of treatment, including deaths by suicide, were recorded, together with the AP medication prescribed and kind of regimes (oral vs. LAI). Illness severity was measured with CGI-S at the start and at 1, 2, 5 and 10 years of follow-up. **Results** The CGI-S at the beginning of the study was 5.6 (standard deviation, SD: 0.7); in the MHUs it was 5.3 (0.4), and on the CMP it was 5.9 (0.5) ( $p < 0.05$ ). After 10 years, the CGI-S was 3.9 (1.1) in the MHU group and 3.1 (0.9) in the CMP one ( $p < 0.005$ ). Although CGI-S scores were higher in MHUs than on CMP at the beginning of treatment ( $p < 0.05$ ), there was a significantly sharper decrease in CMP patients at the end of the follow-up compared to those in MHUs ( $p < 0.005$ ). In both groups, the drop in score was significant as of the first year of treatment, but higher in the CMP group. 27.6% of patients in MHUs were on LAIs, and 57.6 on the CMP ( $p < 0.001$ ). 43.6% of the patients had discontinued treatment in MHUs and 12.1% on the CMP ( $p <$

0.0001). Treatment discontinuation was closely linked to OAPs medication in both cases ( $p < 0.001$ ). Gender was not related to program adherence (No significant relationships were found). **Conclusions** Our findings show how specific strategies as programs with an integrated treatment and case-managed approach, increase adherence, and also decrease clinical severity. Moreover, treating with LAI APs clearly contributes to the achievement of these results. The widespread implementation of comprehensive community programs with case management, integrated psychological, pharmacological and rehabilitation treatment, and the use of long-acting antipsychotic medication should be an effective choice for people with schizophrenia and clinical severity and impairment, and at high risk of treatment discontinuation.

### No. 33

#### **Perception of the Academic Quality of Psychiatry Training in the Dominican Republic: Challenges and Opportunities.**

*Poster Presenter: Ampary Reyes, M.D., M.Sc.*

*Co-Author: Richard Bido Medina, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Psychiatry residency programs are expected to comply with standards and criteria that assure the quality of training in compliance with the modern psychiatrist profile. The Dominican Republic, with a population of approximately 11 MM and only 278 psychiatrists, unequally distributed in its geography, only has one psychiatry residency founded on October 30, 1977, which historically graduated about 5 psychiatrists per year, and recently incremented to 11 residents per year. There are only two fellowships: Child and Adolescent, founded June 1, 2016, and Forensic founded June 30, 2020, both graduating 2 fellows per year.

**Objective:** To assess the perception of residents about the academic quality of their training program, for both general psychiatry residents and fellows. **Methods:** An electronic survey was utilized after obtaining consent from the program director and chief residents. The survey was focused on the residents and fellows academic, clinical and research experience, with specific questions on their rotations and involvement on academic and research projects

and mentorship opportunities. Data was analyzed using Microsoft Excel. **Results:** From 31 residents and 8 fellows (39 trainees) only 20 filled the survey (53%); from the responders 15 (75% were residents and 5 (25%) fellows, (Female= 70%). 70% and 80% endorsed receiving adequate formation in psychopathology and psychopharmacology, respectively; however, only 20% reported to received formation on research methodology. Importantly, 65% reported not being assigned a mentor and from the 35% who does, reported they meet with their mentor unfrequently or never. 60% responded being involved in at least one research project during residency but 90% reported the affiliated university not being involved in this process. From the academic activities in resident the most implemented were clinical cases (100%), journal club (80%), meetings with experts outside residency 75%. Regarding clinical training, 55% participated in weekly in-person call, 70% in outpatient clinic 3 times per week, 55% inpatient 2 times per week and only 40% is involved in some form of psychotherapy. In terms of satisfaction, 60% reported to be "very satisfied" with the academic level of faculty but only 10% is "satisfied" with the mentorship. **Conclusion:** This survey evidenced the need to strengthen trainee's exposure to research, mentorship and psychotherapy. Opportunities for research in particular, should be emphasized to train clinicians that are competent and independent to further research in the Dominican Republic, to the standard of a post-graduate trainee profile. The need to involve the affiliated university in residents academic experience was also revealed. In terms of clinical training residents perceived as areas to be strengthen Addictions and Community psychiatry.

### No. 34

#### **Pharmacogenomics of Antipsychotic Medications**

*Poster Presenter: Muneeb Arshad Zaidi*

*Co-Authors: Faisal Qureshi, Muhammad Saad, M.D.*

#### **SUMMARY:**

**Abstract: Background:** There is growing research interest in learning the genetic basis of response and adverse effects with psychotropic medications, including antipsychotic drugs. However, the clinical utility of information from genetic studies is



compromised by their controversial results, primarily due to relatively small effect and sample sizes. Clinical, demographic, and environmental differences in patient cohorts further explain the lack of consistent results from these genetic studies. We reviewed the exiting literature on pharmacogenomic aspects of efficacy and tolerability of antipsychotic medications to examine if there are any clinically applicable results and to discuss currently available genetic assays for clinically meaningful genetic biomarkers. Methods: The major inclusion criteria included studies that examined the effects of genetic polymorphisms on the effectiveness of one or more antipsychotic medications in patients with primary psychosis. Studies with an observational design, published in a language other than English, case reports, or case series were excluded. There was no time limitation. We used PubMed and PsycINFO using the following terms: pharmacogenomics, pharmacogenetics, antipsychotic, medications, genetic, testing, biomarkers. The search created 13 papers using references from more than 320 studies used for this review. Results: Unfortunately, vast majority of reviewed literature reviewed had inadequate sample size, which significantly limits the interpretation of findings from these studies. Discussion: Inadequate sample sizes, relative lack of psychopharmacological expertise in interpreting results from genetic assays, and the polygenic nature of psychopharmacological response explains suboptimal use of genetic testing in clinical practice. These limitations explain the difficulties in the translation of psychopharmacological research in pharmacogenetics and pharmacogenomics from bench to bedside to manage increasingly treatment-refractory psychiatric disorders, especially schizophrenia. Although these shortcomings question the utility of genetic testing in the general population, the commercially available genetic assays are being increasingly utilized to optimize the effectiveness of psychotropic medications in the treatment- refractory patient population, including schizophrenia. In this context, patients with treatment- refractory schizophrenia are among of the most vulnerable patients to be exposed to the debilitating adverse effects from often irrational and high-dose antipsychotic polypharmacy without clinically meaningful benefits. The primary objective

of this comprehensive review is to analyze and interpret replicated findings from the genetic studies to identify specific genetic biomarkers that could be utilized to enhance antipsychotic efficacy and tolerability in the treatment-refractory schizophrenia population.

### **No. 35**

#### **Physical Activity and Nutrition: A Review of Their Relation With Personality Disorders**

*Poster Presenter: Lionel Cailhol*

*Co-Authors: Felix-Antoine Berube, Samuel St-Amour, Catherine Le Corff*

#### **SUMMARY:**

Individuals with personality disorders have a decreased life-expectancy when compared to the general population in particular due to physical illnesses (Castle, 2019). Many factors can be associated with those physical illnesses such as hormonal changes, psychotropic medication, lack of physical activity and bad nutritional habits (Douzenis et al., 2012). Moreover, physical activity and nutrition intervention have shown great results in decreasing symptoms and improving condition in affective and anxiety disorders (Ravindran et al., 2016). However, little is known about the relation between physical activity and nutrition (hereafter called lifestyle), and personality disorders. The purpose of this review is to regroup the available information on this topic. In February 2021, we searched the literature using Pubmed, PsychINFO, EMBASE and CINAHL for articles analyzing the relation between lifestyle, and personality disorders. After elimination of unrelated articles base on abstract and/or full-text read, we included 21 different articles. The articles were divided in 4 sections to illustrate the 4 possible relations between the variables: Personality disorders in individuals with poor lifestyle (8 articles); Poor lifestyle in individuals with personality disorders (5 articles); Effects of lifestyle interventions on personality disorders (4 articles); and Effect of personality disorder on lifestyle (4 articles). In this review, we found few studies analyzing the relation between lifestyle and personality disorders. Most studies either used lifestyle measures as control variables or did not use such variables at all.

Moreover, instruments used to measure lifestyle variables lacked precision at best. Two studies (4 articles) demonstrated a relation between early malnutrition and further development of personality disorders, but those results may be attributed to confounding variables (war trauma, stress, poverty) and cannot show a clear link between nutrition and personality disorder. Few evidence are available linking lifestyle to personality disorders in any way. This lack of evidence is surprising considering the suggested lifestyle interventions in personality disorders treatment guidelines and the multiple benefits this population could get from it. More studies are needed to thoroughly analyze the impact of lifestyle on personality disorders and vice versa. Those studies need to use validated instruments in order to provide strong evidence of the existence or not of such a relation.

#### **No. 36**

##### **Post Cerebrovascular Stroke Catatonic Psychosis**

*Poster Presenter: Haytham Mohamed Hassan, M.D.*

*Co-Authors: Moustafa Abdo Saad, Samah Rabei*

##### **SUMMARY:**

Post cerebrovascular stroke catatonic psychosis is a rare condition that needs further observation and research. This report describes a case of a 64 years old woman who developed psychotic symptoms for 15 days and developed catatonic features on admission which responded to midazolam. She has no past history of psychotic symptoms yet, has a family history of a nephew with schizophrenia and a father with vascular dementia. She developed pulmonary embolism in hospital and venous duplex showed deep venous thrombosis of the lower limbs and high d-dimer was evident too. MRI Brain showed small vessel disease, Right basal ganglia acute ischemic infarction. Further attention and novel approaches are required to address this disorder.

#### **No. 37**

##### **Prevalence of Depressive Symptoms and Suicide Risk Among Medical Residents**

*Poster Presenter: Gabriela Arocha*

*Lead Author: Cinthia Yamel Reyes Cruz, M.D.*

*Co-Authors: Vilma Santana, Kimberly Almonte, Nelson Leonel Martínez Rodríguez*

##### **SUMMARY:**

Prevalence of depressive symptoms and suicide risk among medical residents *Reyes C., Arocha G., Santana V., Almonte K., Martínez N.* Abstract Objective. The aim of this study is to determine the prevalence of depressive symptoms and suicidal risk in medical residents in health centers of Santiago de los Caballeros. Methods. A descriptive, cross-sectional study was conducted applying the Beck Depression Inventory II (BDI-2) and the Plutchik Suicidal Risk Scale, residents were surveyed between February and May 2021. Results. From the overall population of 507 residents, a total of 231 residents filled out the survey anonymously and 217 were included in the analysis. The prevalence of depressive symptoms and suicidal risk resulted in 24.9% and 22.94% consecutively. Residents enrolled in a private health center residency program had 3.83 times more risk of developing depressive symptoms compared to those who were enrolled in a public health center. Furthermore, residents belonging to Internal Medicine (39.5%), Emergency medicine (29.4%), and Radiology (21.4%) had a higher prevalence of depressive symptoms. Equivalently, Internal Medicine (31.6%), and Anesthesiology (42.2%) residents resulted with a higher suicide risk, compared to other medical residency programs. Conclusions. A significant percentage of the residents suffer depressive symptoms and suicidal risk; therefore, there must be a serious call to attention throughout this topic. Residency programs should take action and include mental health projects to help manage the well being of trainee physicians.

#### **No. 38**

##### **Prevalence of Sleep Disorders, Anxiety During the COVID-19 Pandemic**

*Poster Presenter: Priyansha Acharya*

*Co-Authors: Yash Bhattarai, Gagan Bohara*

##### **SUMMARY:**

**Introduction** A growing burden of mental health problems has become a global concern amid the COVID-19 pandemic. Among them, anxiety and sleep disorders are significant mental health problems associated with increased psychosocial stressors. We

try to highlight the prevalence of sleep disorders and anxiety during the COVID-19 pandemic with this article. **Methods** A comprehensive literature search was done using PubMed and Google Scholar with the predefined inclusion criteria. Articles published after 2020, that were written in English and that assessed the association of COVID-19 pandemic with sleep disorders and anxiety were studied. **Key Findings** Among the reviewed systematic review and meta-analysis the prevalence of anxiety and sleep disorders were found to be in the range 23.2-47% and 2.3-76.6% respectively. A cross-sectional study showed poor sleep quality among the COVID patients and the presence of general anxiety disorder (35.1%) especially in young. A case of a 49-year-old female was also reported to be having poor sleep quality, longer sleep latency, and insomnia during the acute COVID-19 infection. A significant proportion of respondents experienced anxiety, reduced sleep quality, and insomnia in two review articles and another article also highlighted the increased prevalence of sleep disorders in several countries. However, a cohort study demonstrated no significant relationship between COVID-19 infection and sleep disorder and concluded that the appearance of anxiety-induced insomnia is extremely rare (0.5%) if a healthy individual is already in the stay-at-home situation. **Conclusion** It can be concluded that anxiety and sleep disorders are significant mental health problems associated with COVID-19 related stressors. Despite the high burden, a limited number of interventions were identified to address this problem. The finding of the review indicated a limited intervention that necessitates informing policymakers and practitioners to facilitate future studies. It stresses the need to establish ways to mitigate mental health risks. **Keywords** anxiety, sleep disorder, coronavirus, COVID-19

#### **No. 39**

##### **Psychopathological Factors for the Enhancement of Treatment (With Synchronous –Sequential Model) of Patients With Mood and Schizoaffective Disorders**

*Poster Presenter: Ilaria Bandini*

*Lead Author: Aristotele Hadjichristos, M.D.*

*Co-Authors: Marta Giacomini, Ilario Mammone,*

*Alessia Lo Grande*

#### **SUMMARY:**

Our diagnosis and treatment model, applied through a Synchronous-Sequential model, arises from integration between diagnosis, treatment and clinical, psychometric tools, in order to identify the most suitable pharmacological, psychological and psychoeducational intervention for every patient. The use of psychopathological standardized tests allows to program the best personal treatment for every single patient. The aim of present study is to measure, compare and differentiate in the clinical scales of MMPI-2 the presence or absence of some Psychopathological features in patients diagnosed for: major depression (MD), bipolar disorder (BPD) and schizoaffective disorder (SCD), with or without drugs abuse. The eligible patients for our study belong to a consecutive group of 206 individuals evaluated for psychiatric diseases listed above. The patients were assessed from March 2016 to August 2021, in Telemedicine or in our Integrated Center for Psychiatry and Psychology "CIPsi Clodio", in Rome/Italy. Only patients with a score =70 in MMPI-2 clinical scales were considered as statistically evaluable. The final sample is of 87 patients (males n=38 and females n=49). In all the 5 diagnostic categories, the T scores =70 were detected only in the following clinical scales: Hypochondria (Hs), Psicoastenia (Pt), Psycophatic Deviation (Pd), Schizofrenia (Sc), Hypomania (Ma). Furthermore, in patients with BPD there is a greater elevation of the Sc; the subjects with BPD (with substances abuse), and with MD there is a greater elevation of the Pt; in SCD patients (with substances abuse), there is a greater elevation of the Sc and Pd; in SCD subjects (with substances abuse), there is no scale (among these 5 emerging ones) that stands out from the others. We will discuss the results and the reason why the patient's request for help is not justified by mood trend but by the presence of symptoms (anxiety, mental disorganization, psychomotor hyperactivity, somatization and / or social maladjustment) that are perceived as disabling.

#### **No. 40**

##### **Building Baby Brains: A Training Manual for Community Health Workers in Rural Communities**

*Poster Presenter: Muhammad Zeshan, M.D.*

*Co-Authors: Arham Javaid, M.B.B.S., Alexandra Harrison, M.D., Gayatri Meswani, Hamid Hassan, M.B.B.S.*

**SUMMARY:**

The infant mortality rate in Pakistan is 25<sup>th</sup> in the list of 225 countries monitored by the World Health Organization (WHO, 2020). Infant morbidity and mortality rates are particularly high in the low-resource areas of rural Pakistan. Accumulated research demonstrates that the infant-caregiver relationship can moderate the harmful effect of environmental stress during the first 1000 days of life - a critical developmental period when the nervous system is growing most rapidly. Prior research and applications in other areas provide strong support for the proposition that interventions designed to strengthen the infant-caregiver relationship should be created, tested, and refined for use in Pakistan and other low-resource areas across the globe. Interventions that focus on enhancing maternal responsiveness and identifying infant sensitivities facilitate the development of self-regulation and other core competencies necessary for future success in school and work. A cost-effective method for implementing infant-parent relationship building tools would be to integrate them into the typical care of community health workers charged with preventive health services. An infant parent mental health curriculum for training lady health workers (LHW) in Pakistan was adapted from a similar training given to student nurses in India for 8 years. The training covers content on early development, perinatal mental health, and a relationship-building tool, the Thula Sana. The training is delivered in lectures, video illustrations, and clinical demonstrations. A pilot study is planned to study the effectiveness of the training on enhancing responsiveness in the mother-infant relationship. A manual was created to make the information in the training accessible to LHWs for subsequent reference and in the field. The manual includes written material about the didactic content of the training and illustrated instructions for implementing the Thula Sana. A multidisciplinary team of physicians, researchers, and students wrote and illustrated the manual, translated it into Urdu, and published a copy for each LHW in a region of South Punjab. In addition to its use in South Punjab,

the manual is intended as a model for future training of community health workers in other low resource communities.

**No. 41**

**Remote Implementation of the Newborn Behavior Observation in Rural Underserved Community**

*Poster Presenter: Muhammad Zeshan, M.D.*

*Co-Authors: Arham Javaid, M.B.B.S., Shazia Parveen, M.B.B.S., Malik Ahmed Hussain Deharr, Muhammad Ajmal Bhatti, Shahana Aslam*

**SUMMARY:**

The Newborn Behavioral Observations (NBO) system™ is a relationship-based tool in which parents are helped to recognize their infant's competencies and learn their behavioral cues, with the goal of enhancing parental responsiveness and satisfaction in the infant-parent relationship. The objective of supporting the infant-parent relationship is crucial because of accumulating evidence that a responsive infant-parent relationship can buffer the infant's developing nervous system against the negative effect of environmental stressors--ACE's--associated with chronic poverty. Due to the pandemic, the NBO was implemented by a team consisting of a local pediatric clinician under the remote guidance of two U.S.-based trained NBO practitioners. The pediatrician integrated the NBO, into 44 pediatric health care visits of infants in villages in rural Pakistan, A second clinician then gave the mothers a survey about their experience of the NBO and found that the mothers were highly satisfied, reporting greater appreciation of their infant's strengths, greater understanding of their infant's behavioral cues, stronger attachment to their infant, and greater self-confidence as a mother. In addition, the intervention enhanced the families' alliance with the pediatrician, facilitating the families' compliance with recommendations for medical interventions often avoided due to misinformation in the community. The authors concluded that this intervention could be successfully implemented remotely by trained practitioners with a local clinician and generated hypotheses to inform a RCT outcome study of a similar intervention.

**No. 42**

**Revolution Road in Mental Health Care Delivery,  
National Mental Health Platform in Egypt**

*Poster Presenter: Sally Ibrahim Noby, M.B.B.S.*

**SUMMARY:**

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**No. 43**

**School Attendance Problems and Mental Disorders;  
an International Study in Dutch and German  
Children and Adolescents**

*Poster Presenter: Bas Teun Huub de Veen*

**SUMMARY:**

**Background:** One of the nine main social determinants of mental illness is educational status. School attendance problems have a negative impact on psychosocial functioning and development across the lifespan of a child, especially in combination with psychiatric problems. This international study investigated which factors predict school absence in a clinical sample of Dutch and German children and adolescents with mental disorders. The findings in this study are currently preliminary and under analysis. **Methods:** In this cross-cultural-sectional one measure study patients, aged between 7-18 years old (mean age=13.0, 55,4% male), were recruited from child psychiatric centers Karakter, *Landschaftsverband Rheinland* (LVR)-Essen and LVR-Viersen using a convenience sample of newly registered families between the period of March-June 2019. Parents of patients completed a socio-demographic questionnaire, the Strength-Difficulty-Questionnaire (SDQ), and School-Non-Attendance-Checklist (SNACK). Psychiatric diagnoses from the patients records were included in the analysis. The total sample consisted of 362 patients from three clinical samples of Dutch (n=159) and German (n=203) children and adolescents. A stepwise logistic regression analysis was employed to elucidate the association between unauthorized school absence and potential confounders, the SDQ-scales and broad ICD-10 diagnoses categories. Age, gender, recruitment center and ISCED-level were chosen as control variables. **Results:** In the total sample only 33% reported regular school attendance in the past four weeks. Of participants reporting unauthorized

school absence, 45% reported at least 1 day (model 1), and 23% reported more than 10 days of school absence (model 2). For model 1, high scores on the Emotional symptoms scale are associated with higher odds of unauthorized school absence. Furthermore, patients with an ICD-10 diagnosis from psychotic disorders, or mood disorders had a slightly higher but significant risk for not showing up to school. We also found a significant association between personality and behavior disorder and unauthorized school absence. For model 2, higher age and being male are associated with severe unauthorized school absence. High scores on the Emotional symptoms scale are associated with higher odds for severe school absence. The same pertains to patients suffering from psychotic disorders and mood disorders. **Conclusion:** This study found a high percentage of school absence in three clinical samples compared to the normal population. Patients with high emotional symptoms and severe psychiatric diagnosis were associated with higher odds of school attendance problems. This may be not a shocking finding in itself, but it makes us aware of the problem. More awareness of school attendance problems by clinicians is needed to prevent disparities. This international cooperation is instrumental to enhance quality of the care given to this group in our two countries.

**No. 44**

**Screening for Preclinical Signs of Depression in  
Healthy Young Volunteers Based on Free Speech**

*Poster Presenter: Nicklas Linz, M.Sc.*

*Co-Authors: Johannes Tröger, Alexandra König, Julia Karbach, Jessica Peter*

**SUMMARY:**

**INTRODUCTION** Efficiently monitoring signs of pre-clinical depression in younger adults at scale is of interest for epidemiological research and longitudinal clinical trials (O'Connor, Whitlock, Gaynes & Beil 2009). Traditional survey-based screenings are time-consuming and difficult to scale up in remote settings. Recently, speech analysis has developed into a powerful approach for such monitoring with low patient burden and in a remote fully automated manner (Cummins et al., 2015). We present feasibility results from a sample of non-

clinical young adults based on speech from two free autobiographic questions and fully automatic speech analysis predicting scores of a depression screening scale. METHODS Speech was collected from a population of 117 (77% female) German non-clinical young adults ( $m_{\text{age}}=23.48$  years;  $SD=3.65$ ) recruited at University of Saarbrücken and University of Koblenz-Landau. They completed the ADS (Allgemeine Depressionsskala; German for General Depression Scale; Meyer & Hautzinger, 2001). The ADS is a 20-item self-reported questionnaire assessing disturbances caused by depressive symptoms during the last week resulting in a score from 0 to 60 whereas a score of equal or greater than 22 is considered clinically significant. In our sample there was a mean ADS score of 18.15 ( $SD=5.53$ ) with 25 subjects scoring above cut-off. Next to the ADS, participants completed two autobiographical one-minute speech tasks: Tell me something (1) positive/ (2) negative that happened in your life. From these speech tasks we extracted 50 different groups of acoustic and transcript features per task. We then normalized the speech features for gender and trained combined machine learning (ML) models on them regressing the ADS score based on the speech features. We report Mean Absolute Error (MAE). To allow for significance testing of the MAE derived by the ML model, a randomised baseline distribution is generated to test for significance of our ML model. RESULTS The best performance was achieved by a support vector machine model predicting the ADS score with a MAE = 3.90 significantly beating the baseline of 4.43 ( $SD = 0.17$ );  $p < 0.05$ . CONCLUSION Our results show a speech-based ML model that is capable of significantly predicting the ADS score based on two one-minute free speech questions and fully automatic speech analysis only. The results indicate that pre-clinical depression severity monitoring is feasible using a rapid-sampling and scalable speech analysis approach which bears high potential in remote settings and is less burdening than traditional survey-based assessments.

#### No. 45

##### **Self-Injury and Medication Intake, in Patients With Non-Suicidal Behavior**

*Poster Presenter: Leonardo Emanuel Hess, M.D.*

*Co-Authors: Jaime Mario Kuvischansky, Corina Corina Ponce, Leandro Ale*

#### **SUMMARY:**

Introduction Non-suicidal self-harm (NSSI), that is, deliberately injuring themselves without the conscious intention to die. There is a broad etiology that causes people to perform this type of behavior, being a reason for consultation, due to the concern of the patient or his family. It is more common in the adolescent population, and generally includes sharp wounds and burns in the superior and inferior extremities and also for the abdomen. Although the patient does not have an intention to die, this behavior constitutes a risk factor for possible complications, such as infections, musculoskeletal injuries, scars (body image), among others. Also, the adopted behavior can be dangerous, or for some reason become lethal, without the patient wanting death. The intake of non-suicidal medications can also become a non-suicidal self-injury behavior, in many occasions in order to make a call for attention to the patient's environment. Also, this problem is a risk factor for committing suicide in the future. Objective The present work focuses on this problem as a reason for consultation, admission to emergency services or to be detected as usual symptoms of some mental disorders, such as borderline personality disorder. Developing The main works and guides of international treatments have been reviewed, concluding that this type of behavior is more frequent in young women and adolescents, although men carry out behaviors with more serious injuries. Many patients are hospitalized for fear of future behaviors of this type and for fear of committing suicide. Cognitive behavioral therapies show promising results. Training in skills and attitudes is carried out to promote problem solving, avoiding impulsive decision making. These therapies have better results if it integrates the parents or the patient's environment. Conclusions Non-suicidal self-injurious behavior is a complex issue to address and understand. It requires a broad look and specialized services for the treatment of these patients, taking into account their environment, not only to understand, but also to actively participate in the treatment and recovery of the person.

**No. 46****Stress, Sleep, and Substance Use - the COVID-19 Pandemic's Trifecta of Challenges Faced by Essential Workers in America**

*Poster Presenter: Ivanshu Jain*

*Lead Author: Shirish Patel, M.D.*

*Co-Author: Palak Fichadia*

**SUMMARY:**

The year 2020 saw the start of a global paradigm shift in the way people live and interact with each other daily. The COVID-19 pandemic exposed more weaknesses in the American healthcare system in delivering and accessing mental health care services and resources. People with mental health diagnoses already face barriers to care. During the pandemic, many people were at greater risk for experiencing adverse mental health or substance abuse issues, including people experiencing job loss, parents and children, communities of color, and essential workers. This poster seeks to outline the current prevalence of stress, sleep and substance use disorder in essential workers through the lens of social determinants of mental health and the impact of the COVID-19 global pandemic within the United States of America. Further analysis is also presented on a causal link between COVID-19 survivors and increased substance use disorders and insomnia rates.

**No. 47****The Importance of a Correct and Timely Diagnosis: A Neuropsychiatric SLE Clinical Case Treated With Synchronous Sequential Method**

*Poster Presenter: Aristotele Hadjichristos, M.D.*

*Co-Authors: Alessia Lo Grande, Pasquale Romano, M.D., Andrea Ludovici, M.D., Christos Hadjichristos, M.D.*

**SUMMARY:**

Systemic lupus erythematosus (SLE) is a chronic, systemic, autoimmune inflammatory disease characterized by a variety of clinical symptoms that affect multiple systems. The incidence of SLE has a striking 9:1 female predominance. Neuropsychiatric involvement is a sign of severe SLE and is the main cause of reduced quality of life, and mortality in patients with SLE. Neurologic deficits and

thromboembolic events are caused by anti-phospholipid antibodies. Diagnosis and treatment of patients SLE who report neurocognitive impairment (NPSLE) are still difficult for different clinical manifestations. A 61-year-old Italian female, asked a psychiatric consult for a depression with abulic symptoms. She presents severe apraxia of clothing, headaches, apathy, anhedonia, anxiety, sleep disturbance, accompanied by an evident cognitive and emotional deterioration, already present at the assessment. The psychiatric history does not reveal previous similar episodes. She has been under treatment for SLE for about 40 years, taking biological drugs and in the most serious cases cortisone. She performs a psychiatric and neuropsychological assessment (ACE-R, Raven Progressive Matrix, Visual Search, Trail Making Test, Rey Auditory Verbal Learning Test, Test for prose memory, Clock Test, Rey Osterrieth Complex Figure, Stroop Test, QoL, Neuropsychological Interview). Subsequently she has been submitted to neuroimaging exams (RM with functional tests and tractography with contemporary PET). For the psychological assessment, the HAM-D, the HAM-A and the MADRS were administered. The results of the neuro-psychodiagnostic assessment combined with the neuroimaging technique have shown the presence of a long-term memory deficit accompanied by chronic vascular-based brain distress. Through MRI and PET examinations, extensive encephalopathy is observed in the cortical and periventricular white matter accompanied by cortical metabolic hypoactivation. The application of Synchronous Sequential method has allowed us to make the correct medical-psychiatric diagnosis, insert a new psychopharmacological therapy and start a psychoeducational path with the patient and her family. Finally, the neurorehabilitative pathway made possible the improvement of the performance in daily life tasks, the reacquisition of social skills, which had deteriorated as the disorder progressed. In conclusion, we demonstrate how the failure to recognize the presence of a neuropsychiatric disorder secondary to an organic disease, and the failure to treat it, is prejudicial to the completion of an integrated treatment path, and therefore to the achievement of psycho-physical well-being and a good quality of life. We will also show the results in six months of therapy and the scores of HAM-D and

HAM-A, MADRS and QoL at time zero, 15 days of treatment, at 45 days, at 60 days, at 3 months and at 6 months.

**No. 48**  
**The Interactive Effects of Test-Retest and Methylphenidate Administration on Cognitive Performance in Youth With ADHD**

*Poster Presenter: Itai Horowitz*

**SUMMARY:**

Cognitive effects of Methylphenidate were investigated in a setting resembling the clinical, same-day, treatment response examination protocol, in order to explore the interaction between Methylphenidate and test-retest effects. Twenty youths with attention deficit hyperactivity disorder (ADHD) were tested before and after Methylphenidate in a double-blind placebo-controlled crossover design and compared to twenty matched controls. Participants were tested on a wide range of standardized tasks, including sustained attention to response (SART), N-Back and Word and Color Stroop tasks, measuring inattention, impulsivity, working memory and inhibition interference. Identical tasks were administered twice in each testing day, before and after Methylphenidate/Placebo administration. A significant decrease in response time variability and commission errors was found after Methylphenidate compared to placebo. A significant increase in response time variability and omission errors was observed after placebo. Control group analysis of repeated tasks has revealed practice and fatigue effects for commission and omission errors, respectively. Response time variability and omission errors were increased whereas commission errors were decreased. Much is debated about practice effects in test-retest constellation although various commercial ADHD computerized tasks have argued that test-retest practice is negligible in order to validate task repeatability. Our results from the control group question the reliability of repeated measurement of commission errors to accurately reflect impulsivity. Previous work based on computerized performance tasks has also reported practice effect in commission errors. In conclusion, cognitive tests are sensitive objective measures for

assessment of response to Methylphenidate in ADHD but are also affected by repetition and fatigue.

**No. 49**  
**The International Prevalence of Schizotypal Personality Disorder: A Systematic Review**

*Poster Presenter: Ciro Marco*

*Co-Authors: Ruth Becker, Wélissa Moura, João Maia, Anderson Sousa Martins Da Silva*

**SUMMARY:**

**Background:** Schizotypal Personality Disorder (SPD) is a common mental illness associated with severe functional impairment, high rates of comorbid mental disorders and can be considered as a premorbid or a prodromal state of schizophrenia or as an attenuated form of this disease. Most of the studies estimates the prevalence of SPD ranging between 0.7-3%. Understanding the epidemiological aspects of SPD may provide important data for planning the allocations of funds as well as its distribution for mental health services. Therefore, the main purpose of this study was to conduct an extensive review of the literature on the prevalence of SPD. **Methods:** We conducted a systematic review on MEDLINE database. We utilized the following search strategy: (Prevalence OR Epidemiology OR Incidence OR Rate) AND Schizotypal. As inclusion criteria we used: articles in English, Portuguese or Spanish, reviews or meta-analysis that covered SPD prevalence and original investigation of SPD prevalence in any setting. We didn't use any age or date limitation. The obtained data was treated with the Statistical Package for the Social Sciences software. **Results:** The search strategy found 979 articles, and after the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses), we selected 96 articles that met the inclusion criteria. Those articles were from: Americas (53,1%), Europe (33,3%), Asia (10,4%) and Oceania (3,1%). The most common criterion set used was the Diagnostic and Statistical Manual of Mental Disorders (DSM)-III-R (54,2%) and the DSM-IV (41.7%). About the SPD set used, the most prevalent was Structured Clinical Interview for DSM-III-R (24.9%), followed by its DSM-IV version (14,.8%), Alcohol Use Disorder and Associated Disabilities Interview Schedule DSM-IV Version



(AUDADIS-IV) (12,9%) and The Structured Interview for the DSM-III Personality Disorders (SIDP) (8,1%). Most studies were published between 1991 and 2000 (34,3%), followed by 2011 to 2020 (28,2%), 2001 to 2010 (19,8%) and 1981 to 1990 (16,7%). The international median prevalence of SPD was 10,8%. The median of participant per study was 229 (IQ: 96-796). The female gender was more prevalent, representing 67,1% of the total subjects studied.

**Conclusion:** Many methodological and samples differences were found in the 96 studies assessed; this may be the most important source of variability of SPD prevalence. These results indicate that efforts should be directed to the standardization of epidemiological studies, to achieve a more comparable and available epidemiological data from all regions of the world, making an assertive allocation of funds for mental health services feasible. </tbody>

#### **No. 50**

##### **The Mental Health Allyship Program—How to Support Others in Need**

*Poster Presenter: Rick Peter Fritz Wolthusen, M.D., M.P.P.*

#### **SUMMARY:**

Introduction: Social support is an important factor for managing stress and recovering from mental illness. Also, it can facilitate access to help services, enabling early treatment that leads to a better prognosis. But for the social environment, limited knowledge and insecurities can make it hard to realize if someone is struggling, how to provide proper support, and how to refer to professional health care services if needed. Therefore, starting in 2018, On the Move e.V.'s project "Aufeinander Achten" educates on providing mental health support with a novel, free, community-based Mental Health Allyship Program. It is available in a version for adults and a version adapted to the needs of students. With the former, we have already trained over 250 persons to provide empathetic and appreciative short- and long-term support. Methods: In a compact live-online format of 5 hours in total, participants go through a mixture of theoretical and practical modules. Using a peer-to-peer approach, we educate on self care, signs of mental distress and

convey in a comprehensible, real-life manner that anyone can help. We optimized the initial program with participant-based feedback and a qualitative survey shared with persons experienced with mental illness. We run pre-, post-, and follow-up evaluations to investigate the effect of our intervention. Results/Discussion: We show promising preliminary results regarding supportive attitudes and behavior. Limitations of the current approach are discussed. We introduce a more detailed assessment of the intervention's effectiveness as well as potentially moderating factors. Scaling potentials of the program through collaborations i.e. with the Uni Freiburg and Erasmus Plus are outlined. Conclusion: The Mental Health Allyship Program is an auspicious community-based tool to provide each person with an essential education of universal competencies for supporting others in need – independent from spatial, temporal, or financial barriers.

#### **No. 51**

##### **The Neuroscience Network: Qualitative Findings From a Study on Neuroscience Training for Mental Health Professionals**

*Poster Presenter: Melissa Arbuckle, M.D., Ph.D.*

*Lead Author: Kathleen Ferreira, Ph.D.*

*Co-Authors: David Ross, M.D., Ph.D., Michael John Travis, M.B.B.S., Maja Skikic, M.D.*

#### **SUMMARY:**

Over the past two decades, advances in neuroscience have enhanced our understanding of the neurobiological basis of psychiatric illness. Despite this progress, the field of psychiatry has been slow to integrate a neuroscience perspective into clinical practice.<sup>1</sup> The *Neuroscience Network* mobile application, a collaboration between the National Neuroscience Curriculum Initiative (NNCI) and C4 Innovations, provides relevant training in neuroscience and continuing education credits for mental health professionals, using videos, podcasts, brief articles, and case studies. In Phase I of the study, our team developed a prototype of the *Neuroscience Network* and used a mixed methods approach to pilot the app with 40 psychiatrists to determine feasibility, acceptability, and preliminary effectiveness. Participants were randomly selected to participate in semi-structured qualitative

interviews. Data analysis revealed that participants viewed the content as digestible, approachable, and relevant to their clinical practice. They noted that course content filled gaps in their knowledge, provided them with up-to-date research, and allowed them to learn about unfamiliar topics in more depth. Respondents also stated that the content advanced their clinical practice and supported their interactions with clients when discussing complex neurological concepts in a patient-centered and non-stigmatizing way. In Phase II, the team further developed the app and expanded the content based on Phase I findings. The team recruited 125 psychiatrists, psychologists, psychiatric nurses, and masters level clinicians to participate in the study. Thirty-two of these participants (eight from each employment category) were randomly selected to participate in semi-structured qualitative interviews. Analysis will be completed within the next three months, but preliminary findings support the quantitative and qualitative results from Phase I: Participants found the material engaging, innovative, and relevant to their work. They noted that *Neuroscience Network* materials increased their knowledge, empathy, and communication with clients. Further, Phase II will allow the team to analyze differences in content uptake and application to practice based on participant role. Preliminary qualitative data analyses show that psychiatrists, psychologists, and psychiatric nurses appeared to have more fundamental knowledge in neuroscience, making it easier to learn the material, while social workers remarked that they would have appreciated introductory lessons with the neuroscience material prior to the app content. This poster will highlight Phase I and Phase II qualitative findings. This Small Business Innovation Research study is supported by the National Institute of Mental Health. Ross DA, Travis MJ, Arbuckle MR. The future of psychiatry as clinical neuroscience: why not now? *JAMA Psychiatry*. 2015 May;72(5):413-4

#### **No. 52**

##### **The Psychological Well-Being of HUS Helsinki University Hospital Personnel During the Covid-19 Pandemic - 12-Month Follow-Up Results**

*Poster Presenter: Tanja Laukkala, M.D.*

*Co-Authors: Tom Rosenström, Pekka Jylhä, Katinka Tuisku*

#### **SUMMARY:**

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#### **No. 53**

##### **The Severity of Suicidal Ideation in Major Depressive Disorder Patients and Its Relation With the Loudness Dependence of the Auditory Evoked Potential**

*Poster Presenter: Kim Younggeun*

*Co-Authors: Byungjoo Kang, M.D., Sang Woo Hahn*

#### **SUMMARY:**

**Objectives:** The loudness dependence of the auditory evoked potential (LDAEP) is a reliable biomarker that negatively correlates with central serotonergic activity. Recent studies have shown that there is a correlation between LDAEP and suicidal ideation. This study examined the difference in LDAEP between patients with major depressive disorder of high suicidality and patients with major depressive disorder of low suicidality comparing healthy controls. **Methods:** 67 participants were included in this study: 23 with major depressive disorder of high suicidality (9 males, mean age  $29.3 \pm 15.7$  years), and 22 with major depressive disorder of low suicidality (9 males, mean age  $42.2 \pm 14.4$  years), and 22 healthy controls (11 males, mean age  $31.6 \pm 8.7$  years). Participants underwent the following evaluations: Patient Health Questionnaire-9, Beck Depression Inventory-II, Beck Scale for Suicidal ideation, State Anxiety Scale of the State-Trait Anxiety Inventory, Beck Anxiety Inventory, and LDAEP (measured at electrode Cz). **Results:** There were no gender differences between groups ( $p = 0.738$ ). Compared with the low suicidality group, the high suicidality group showed significantly higher LDAEP ( $0.82 \pm 0.79$  vs  $0.26 \pm 0.36$ ,  $p = 0.033$ ). There were no significant differences between the control group and high suicidality group ( $p = 0.654$ ) or the control group and low suicidality group ( $p = 0.471$ ). **Conclusion:** LDAEP was used to prove the relationship between serotonergic activity and suicidal ideation and suicide risk in patients with major depression, and may be a promising biomarker to effectively predict and prevent suicide.

**No. 54****The Use of Aripiprazole as Treatment of Tics in Adult Patients With Gilles De La Tourette Syndrome**

*Poster Presenter: Lara Rodriguez Andrés*

*Co-Authors: María Del Carmen Vallecillo Adame, Alicia Rodriguez Campos, Gema Medina Ojeda, María Queipo De Llano De La Viuda*

**SUMMARY:**

**INTRODUCTION** Gilles de la Tourette Syndrome (GTS) is a chronic neuropsychiatric disorder with childhood onset characterized by multiple motor and one or more vocal tics. Tics are defined as rapid, non-rhythmic involuntary movements or vocalizations that are misplaced in context and time and are often preceded by a sensation of discomfort, the "premonitory urge" (Jonkovic, 1997). There is general agreement that substances that affect the dopaminergic system (antipsychotics) are most effective in the treatment of tics (Singer, 2010). **CLINICAL CASE REPORT** This case report describes the story of a 35 year old male with a 20-year history of motor and vocal tics non treated; repetitive involuntary blinking, sniffing, shoulder shrugging, vocalization and whistling. The intensity and persistence of the symptoms waxed and waned spontaneously. Over the past year new symptoms had emerged (grimacing and foot tapping). Antipsychotic treatment with aripiprazole with ascending dose was instated. Within three weeks of treatment (aripiprazole 10 mg/d) his vocal tic has disappear but some motor tics and occasional grimacing remained. After an additional 2 weeks his symptoms had completely disappeared. **DIAGNOSIS** Gilles de la Tourette Syndrome **DISCUSSION** Antipsychotic medications are the most effective treatment for tics but the common occurrence of weight gain and the increased risk of metabolic syndrome with chronic use has relegated them to a second-line medication, particularly in children. Alpha-2 agonists are currently considered first-line treatments. We chose to use aripiprazole in this case because of its proven effectiveness in refractory cases and its relatively benign side effect profile . Aripiprazole's unique mechanism of action as a partial agonist on the D2, 5HT2C, and 5HT1A

receptors and as an antagonist of the 5 HT2A receptors may help explain its effectiveness in GTS.

**No. 55****Transcranial Magnetic Stimulation (TMS) in Treatment of Bipolar Depression**

*Poster Presenter: Fatima Chaudhry*

*Co-Authors: Amna Hameed, Sikandar Saeed, Muhammad Saad, M.D.*

**SUMMARY:**

**Background:** Major depressive episodes constitute a large portion of bipolar disorder. Given its high prevalence and limited treatment options, bipolar depression management has become a challenge for clinicians. The side effects and long-term comorbidities associated with pharmacotherapy of bipolar depression cause lack of adherence and high treatment failure rates in patients. Transcranial magnetic stimulation is an FDA-approved non-invasive brain stimulation therapy that has been primarily studied and tested on patients with treatment-resistant depression. In this review article, we determine its efficacy in the treatment of bipolar depression. **Methods:** We primarily searched PubMed for our literature review limited to the papers published after 2017. We studied 15 articles and included 6 in the review. The search words for these articles were: transcranial magnetic stimulation, bipolar depression, treatment, bipolar disorder, efficacy, and results. **Results:** In a single-center, double-blind, randomized, shamed controlled clinical trial, contrast comparisons revealed that active deep Transcranial magnetic stimulation (dTMS) was superior to sham at weeks 4 (difference favoring dTMS = 4.88; 95% CI 0.43 to 9.32, p=0.03) and 6 (5.2; 95% CI 0.75 to 9.64, p=0.02) but that is not the case at other time-points. A double-blind, 4-week, randomized clinical trial of Intermittent theta-burst stimulation (iTBS) revealed that iTBS targeting the left dorsolateral prefrontal cortex is not efficacious in the treatment of acute bipolar depression in patients receiving antimanic or mood-stabilizing agents. In another study, the change in the total score on the HDRS-21 was more significantly improved in the active group than in the sham group at six weeks (p = 0.045). Statistically significant improvements in depression and anxiety

symptoms were noted from baseline to post-treatment in age groups <60 and >60 years. Conclusion: After reviewing these studies, Transcranial Magnetic Stimulation was found to be potentially benefitting for patients with bipolar depression, depicting the most evident results in the short term, which gradually faded away over several weeks. The confounders like differences in disease severity, treatment history, adjunctive pharmacotherapy also affected the results of these studies. Hence, further larger-scale studies are warranted to establish TMS as a safe and effective treatment modality for bipolar patients.

#### **No. 56**

##### **Patient Safety at the National Center for Mental Health: Medication Error Incidence**

*Poster Presenter: Jesus Emmanuel A. D. Sevilleja*

*Co-Author: Beverly Azucena, M.D.*

#### **SUMMARY:**

Scientific research in the area of patient safety in psychiatry is at a preliminary stage. Patient safety refers to the prevention of harm as a result of receiving healthcare services. One of the most important patient safety issues include medication errors in inpatient settings, which is the focus of this study. This study is the first of its kind that systematically assessed the magnitude of the problem in a mental health care facility in the Philippines to the knowledge of the proponents. Medications are the primary therapeutic intervention in the treatment of mental illness. Over the past decade, the number of pharmacological treatment options for mental illness has increased significantly. Medication errors are defined as any adverse drug event related to the use of a prescribed medication while it is in the control of a healthcare professional or patient. Errors may occur in the prescribing, transcribing, dispensing, or administration by a healthcare provider. A comprehensive review of medication errors in psychiatry and factors related to morbidity and mortality indicated involvement of patient-, provider-, and systems-related factors (Procyshyn et al 2010). The incidence of medication errors was estimated from a 6-week prospective study done at the Infirmity Unit of NCMH. During the observation

period, there were 40 to 130 male patients and 46 to 105 female patients seen on a daily basis with an average of 70 for male patients and 61 for female patients. The mean age for both was 40 years. There were 740 events that occurred within this period, 500 for males and 240 for females. Of these, 57.0% and 27.5% of the events for males and females respectively were categorized as errors with no harm done. There was a significantly higher occurrence in the males compared to the females ( $p < 0.001$ ). Most of the errors for the males were due to prescribing, transcribing and administering (76.0%); while that for the females were prescribing and dispensing (85.6%). A significant number of patients were not administered the drug (45% overall). It should be noted however that for the males, the traditional way of dispensing drugs was done; while for the females, unit dosing was employed. None of the errors resulted to harm nor death of the patient. Major factors identified that may have contributed to the medication errors include understaffed and overworked staff and reliance on memory on the identification of patients. Medication errors are constantly underreported (Morrison 2018). Part of the solution is to maintain a culture that works toward recognizing safety challenges and implementing viable solutions rather than harboring a culture of blame, shame, and punishment (Rodziewicz 2021). A culture of safety should be promoted. The application of quality improvement tools is currently being done to redesign the system with fail-safe mechanisms to protect the patients. Preliminary findings showed a significant decrease in medication errors ( $p < 0.05$ ).

#### **No. 57**

##### **When a Fire Starts to Burn: The Link Between Inflammation and Mood Disorders**

*Poster Presenter: Ayesha Choudhry*

*Lead Author: Sara Choudhry*

*Co-Authors: Ali M. Farooqui, Muhammad Youshay Jawad, Ahsan Y. Khan, M.D.*

#### **SUMMARY:**

**Background:** Mood disorders (MDs), such as depression, have been recognized as a leading cause of disability across age groups with a devastating impact on patients' lives and their families. Although

the pharmacotherapy of MDs has mainly been based on catecholaminergic and serotonergic systems, the pathogenesis of MDs involves mechanisms above and beyond monoamines. One of these mechanisms is neuroinflammation, which has provided a promising molecular target to manage MDs, especially in the treatment-refractory population. This review examines the role of neuroinflammation in mediating MDs and summarizes results from anti-inflammatory augmentation studies in MDs.

**Methods:** PubMed, PsychNet, and Google Scholar were searched using the following keywords (('neuroinflammation' OR 'anti-inflammatory' OR 'infection') AND ('mood' OR 'depression' OR 'bipolar' OR 'augmentation')). The search yielded 52 studies; out of which six articles fulfilled the inclusion criteria. **Result:** Reviewed studies highlight a significant association between affective symptoms and elevated levels of proinflammatory markers, such as interleukin 6. Increase in cytokines after a bacterial endotoxin, lipopolysaccharide has been associated with a dose-dependent increase in anxiety, depressed mood, and deficits in long-term memory. Overall, anti-inflammatory agents, aspirin, minocycline, and celecoxib have provided promising results in enhancing the antidepressant response in treatment refractory patients. Lastly, anti-inflammatory agents may also reduce the psychiatric effects of SARS-CoV-2 associated with increased cytokines in patients with pre-existing MDs. **Conclusion:** Although the current body of literature supports a significant relationship between neuroinflammation and MDs, effective anti-inflammatory treatment strategies can only be developed after an increased understanding of the neuroinflammatory mechanisms underlying MDs.

**No. 58**

### **Z's History - Challenges in Understanding the Relationship Between Covid 19 Pandemics and Mental Health Issues**

*Poster Presenter: Silvana Araujo Tavares Ferreira, M.D.*

### **SUMMARY:**

Z. A. is a separated woman of 56 years old, afro-brazilian, who was born in Rio de Janeiro, with no fixed income, as she works only eventually as a manicure, who lives in a community at the outskirts of the city, marked by violence and drug dealing. During quarantine, she received government monetary help, but still needed to do small informal jobs as cleaning for supplementary income. She contracted COVID19 and was hospitalized for 15 days at a public hospital in Rio de Janeiro, Brazil. 10 days after hospital discharge, she came to the Pedro Ernesto University Hospital for post-COVID consultation and, while waiting her appointment, she became agitated, verbally aggressive, with persecutory delusions, self-reference ideas, time-space disorientation and auditory and visual illusions and hallucinations. She heard voices saying that she was no good, that she deserved death and that she would be hospitalized and let to die. She assigned the voices to the other patients in the waiting room. The Psychiatry team was called, and found Z. crying and scared, but she accepted consultation. Family members informed that Z. had no previous psychiatric history, and the diagnostic hypothesis made was Covid19 Cerebrovascular Disease (differential diagnosis - MDD - severe depressive episode with psychotic symptoms). Z. was assigned to intensive care on outpatient basis with weekly appointments, and screening lab tests and brain CTscan were requested, which didn't reveal noteworthy alterations. Fluoxetine up to 60mg and Quetiapine up to 300mg were prescribed without clinical improvement. Medications were changed to Escitalopram up to 20mg and Olanzapine up to 10mg, with improvement in psychotic symptoms and, to a lesser extent, also in depressive symptoms. Besides, she moved to her son's house, where her newly unemployed daughter-in-law could take care of her. During follow-up, Z. has been very concerned about the her grand daughters, their financial situation and that one of her offspring will die. She feels guilty about not being able to help her family anymore. This poster intends to instance the various possible relationships between pandemics, mental health and mental disorders. The association between COVID19 and mental disorders is already well documented (Cénat et al. 2021; Gao et al,

2021), but Z's case illustrates how, especially in countries with great social inequality, the relationship between COVID19 and mental disorders cannot be attributed only to the neuropsychiatric consequences of the disease (Deng et al, 2020; Tianchen Wu et al, 2021). Lack of social support, mourning, economic hardship, personal and social vulnerability of disadvantaged population in developing and underdeveloped countries are also factors to be surpassed in COVID19 pandemics and require social and political intervention, alongside with the medical-psychological treatment of individual cases.

#### No. 59

##### **Incentive Salience Mediates the Relationship Between Childhood Trauma and Alcohol Use Disorder**

*Poster Presenter: Rajon Scott*

*Co-Authors: Tommy Gunawan, Hannah Kim, Nancy Diazgranados, M.D.*

#### **SUMMARY:**

**Introduction:** Incentive salience (IS), the process in which drug-related cues are imbued with motivational salience due to changes in brain reward circuitry (Berridge & Robinson, 2016), is one of the neurofunctional domains in the Addictions Neuroclinical Assessment (ANA) thought to underlie Alcohol Use Disorder (AUD; Kwako et al., 2019). Early life stress can alter brain reward circuitry (Casement et al., 2014), and childhood trauma (CT) is a risk factor for the development of AUD (Schwandt et al., 2013). However, the role of IS in the relationship between CT and AUD is unclear. Our study seeks to examine if IS mediates the relationship between CT and the development of AUD. **Methods:** Participants (N = 300; 41% female) with a wide range of alcohol consumption behaviors completed the NIAAA natural history protocol and the ANA battery. Measures of IS from the ANA battery were the Hypothetical Purchase Task, Alcohol Approach Avoidance Task, and Drinking Implicit Association Task. Additional measures of IS obtained from the screening protocol (Self-Rating of Effects of Alcohol, Penn Alcohol Craving Scale, and Obsessive-Compulsive Drinking Scale) were included in the analyses. CT was quantified using the Childhood

Trauma Questionnaire (CTQ). AUD diagnosis was determined using the Structured Clinical Interview for Diagnostics and Statistics Manual-5. The Alcohol Use Disorders Identification Test (AUDIT) was used as a measure of problematic drinking. We conducted factor analyses to identify the latent factors of the IS domain. We also used structural equation modeling to model the direct and indirect relationships between CT, IS, and problematic drinking. Age and sex were included as covariates. **Results:** A two-factor structure of IS provided the best fit to the data (CFI=0.99, TLI=0.99, RMSEA=0.03). These two factors were alcohol motivation and alcohol insensitivity. The relationship between CTQ and likelihood of AUD diagnosis was mediated by alcohol motivation (indirect effect=0.27,  $p<0.001$ ) but not alcohol insensitivity (indirect effect=0.02,  $p=0.13$ ). Both IS factors mediated the relationship between CTQ and AUDIT scores, though this effect was stronger for alcohol motivation (indirect effect=0.34,  $p<0.05$ ) than alcohol insensitivity (indirect effect=0.02,  $p<0.05$ ). **Discussion:** The data are consistent with our understanding of IS as one of the neurobiological mechanisms underlying AUD. Alcohol motivation mediated the relationship between CT and problematic drinking, as well as AUD diagnosis, while alcohol insensitivity mediated the relationship between CT and problematic drinking, but not AUD diagnosis. These results shed light on the role of CT in shaping adult alcohol consumption behavior through disruptions in IS-related processes. This understanding can help clinicians create individualized treatment plans that target these processes. Future studies will seek to understand the neurobiological and genetic mechanisms driving these effects.

#### No. 60

##### **Impact of Childhood Trauma Exposure and Resilience on the Development of Comorbid Alcohol Use Disorder and Mood Disorders**

*Poster Presenter: Hannah Kim*

*Co-Authors: Tommy Gunawan, Nancy Diazgranados, M.D., Jeremy Luk, Rajon Scott*

#### **SUMMARY:**

**Introduction** Childhood trauma exposure (CTE) is linked to the development of psychiatric illnesses,

including alcohol use disorder (AUD) and mood disorders. Resilience, the ability to adapt in the face of adversity, is thought to be a protective factor against the development of AUD and mood disorder; however, these inter-relationships are not well understood. The goal of this study is to understand the roles of CTE and resilience in the development of AUD and comorbid mood disorders by exploring group differences within the Addictions Neuroclinical Assessment (ANA) framework, with special attention to resilience. **Methods** Participants ( $N=285$ ; 41.0% female, 69.6% with current AUD diagnosis) were enrolled in the NIAAA natural history protocol and completed the ANA battery (Kwako, 2016) between June 2018 and September 2021. We stratified our sample based on DSM-5 diagnosis, into three groups as follows: healthy controls (HC;  $N=68$ ), AUD without a mood disorder diagnosis (AUD-only;  $N=101$ ), and comorbid AUD and mood disorder (AUD+MD;  $N=116$ ). CTE was measured by the Childhood Trauma Questionnaire (CTQ). Resilience was measured by the Connor-Davidson Resilience Scale (CD-RISC). **Results** Multinomial logistic regression (MLR) indicated that CTE was a significant predictor of group membership, such that higher CTQ total scores were associated with increased odds of being in the AUD-only group ( $OR=1.05$ , CI [1.01, 1.09]) and the AUD+MD group ( $OR=1.08$ , CI [1.05, 1.12]), relative to HC. Predicted probability plots for each CTQ subscale revealed that an individual is most likely to belong to the AUD+MD group at higher CTQ scores across each subtype of CTE. An additional MLR of CTQ on group membership with resilience as a mediator indicated that resilience partially mediated the effect of CTE on developing only AUD while fully mediating the effect of CTE on developing AUD+MD. We replicated a mediation model (Vieira et al. 2020) that examined resilience as a mediator for the relationship between CTE and mood disorder. Our results showed a significant indirect effect of CTQ scores on odds of a mood disorder diagnosis through resilience ( $ab=.015$ , 95% CI [.008, .025]) as computed for 5,000 bootstrapped samples using procedures outlined by Hayes (2008). The resilience mediator accounted for 8.2% of the total effect. **Discussion** Resilience and CTE present unique opportunities for targeted interventions catered to both those who develop only AUD and AUD+MD. Our analyses suggest important differences in the

impact of trauma on developing a comorbid mental illness from AUD without comorbidity. While resilience has been broadly implicated as a potential treatment target, it may have the potential to be particularly effective in people who have experienced childhood trauma and have developed both AUD and a comorbid mood disorder. Further research is needed to explore the characteristics and the etiological factors that define the experiences of people in either group.

## No. 61

### Holistic Opioid Curriculum in Undergraduate Medical Education

Poster Presenter: Kimberly Hu, M.D.

Co-Authors: Julie A. Niedermier, M.D., Julie E. Teater, M.D., Amanda Start

#### SUMMARY:

**Introduction:** Despite efforts to prevent opioid overuse and train healthcare providers to recognize and treat opioid use disorders (OUD), the opioid epidemic has raged on. In the US from 2018 to 2019, the age-adjusted rate of overdose deaths increased to nearly 71,000 with 70% involving opioids.<sup>1</sup> Education of medical students in OUD and their treatment is imperative given 80% of heroin users stated their addiction began with use of prescription opioids.<sup>2</sup> Exposure to treatment methods of opioid use disorder is important early in medical education.<sup>2</sup> Researchers have called for medical schools to increase education and training in regards to OUD and its treatment.<sup>3</sup> The aims of this study are to educate medical students about OUD and offer clinical exposure, including the incorporation of an approved buprenorphine waiver training curriculum. **Methods:** Third year medical students were provided either in person or virtual (due to COVID-19 pandemic) buprenorphine waiver training and in person clinical experiences through their core psychiatry clerkship or additional clinical opportunities from January 2019-April 2021. Students completed a pre and post training knowledge test and self-reported clinical experience survey. Students evaluated their ability to screen patients with OUD and manage acute and chronic pain. Paired samples t-tests were estimated to assess improvements in knowledge (sum, 0 to 23)

and approach to clinical management principles (mean, 1 to 5) from pretest to posttest. Frequencies were calculated to determine the percentage of students reporting knowledge about the management of acute and chronic pain and screening for OUD at the end of the academic year. **Results:** 405 students completed the buprenorphine waiver training and consented to participate in this IRB approved study. Students demonstrated a significant increase in their overall knowledge from pretest (M = 18.34, SD = 2.23) to posttest (M = 19.32, SD = 2.23;  $t(297) = -6.94, p < .001, d = .44$ ). Students also reported a significant improvement in their overall understanding of clinical management principles from pretest (M = 3.12, SD = .66) to posttest (M = 4.02, SD = .40;  $t(289) = -22.13, p < .001, d = 1.65$ ). At the end of the academic year, 31% and 25% of students reported they knew how to manage acute and chronic pain, respectively, and 33% of students reported they knew how to screen a patient for OUD. **Conclusion:** The opioid epidemic remains severe and claims numerous lives every year despite the development of evidence based treatments for OUD. Insufficient access to medications for opioid use disorder (MOUD) remains a barrier for many patients suffering from OUD. This study provides evidence that in person and virtual training of undergraduate medical students in OUD and its treatment improves knowledge and understanding of clinical management principles and may better prepare students to treat patients with OUD in the future.

**No. 62**  
**WITHDRAWN**

**No. 63**  
**Disparities in Buprenorphine Treatment Between Medicaid and Privately Insured Patients With Opioid Use Disorder: The Role of Treatment Setting**

*Poster Presenter: Kevin Young Xu, M.D., M.P.H.*

*Lead Author: Ned Presnall, M.S.W.*

*Co-Authors: Carrie Mintz, Laura J. Bierut, M.D., Richard Gruzca, Ph.D.*

**SUMMARY:**

**BACKGROUND:** The U.S. system of specialty treatment for substance use disorders, otherwise

known as “rehab,” comprises more than 15,000 facilities offering acute residential care and provides the majority of addiction treatment in the country. There is concern about inadequate use of buprenorphine in opioid use disorder (OUD) specialty facilities, which predominantly cater to Medicaid enrollees. In this study, we evaluated the association of OUD treatment setting (specialty versus office-based) with treatment retention in Medicaid- and commercially-insured patients. **METHODS:** We identified a cohort of individuals (n=157,408) seeking treatment for OUD using the IBM MarketScan databases (2011-2016). The primary outcome variable was retention in treatment at 180 days. The primary predictor variables were insurance status (Medicaid versus Commercial) and treatment setting (specialty versus office-based, based on procedure codes). The risk of treatment discontinuation was estimated using multivariate logistic regression with adjustment for age, sex, and race. **RESULTS:** Among commercial insurance beneficiaries, 76% received buprenorphine during enrollment in comparison to 36% of Medicaid beneficiaries ( $p < .001$ ). Medicaid enrollees were primarily seen in the specialty setting (64%), in comparison to only 4% of commercially insured patients receiving treatment in specialty facilities ( $p < .001$ ). Among Medicaid beneficiaries, 36.5% (95% CI: 34.5-38.7%) of those who received any office-based counseling were retained in buprenorphine treatment at 180 days, compared with 28.5% (27.8-29.1%) of those who never received counseling and 11.5% (10.4-12.6%) of those who received any specialty counseling. Among commercial insurance beneficiaries, 180-day buprenorphine retention for those who received any office-based counseling, those who received no counseling, and those who received specialty counseling was 45.3% (44.2-46.4%), 38.4% (28.0-38.8%), and 29.5% (38.0-38.8%), respectively. **CONCLUSIONS:** Medicaid beneficiaries with OUD overwhelmingly use the specialty treatment system, where they are less likely to receive buprenorphine and more likely to experience treatment discontinuation.

**No. 64**  
**COVID-19 Survivors 1 Year Later**

*Poster Presenter: Michael Van Ameringen, M.D.*



*Co-Authors: Carolina Goldman Bergmann, M.D., M.Sc., Beth Patterson, M.Sc., B.S.N., Beth Sideris, B.Sc., Maryam Rahat, Ph.D., M.A., M.Sc., Jasmine Turna, Ph.D.*

#### **SUMMARY:**

**Background:** Studies examining the effects of COVID-19 during early recovery note a high occurrence of psychological distress and increased rates of psychiatric disorder diagnosis. The most commonly reported mental health symptoms following recovery from the virus, have been anxiety or depression, with elevated risks found for more severely ill patients. Long-term follow-up studies have primarily focused on lasting physical impacts of the virus. The current study examines the long-term psychological consequences of COVID-19. **Methods:** Individuals aged 16 and over, who endorsed contracting COVID-19, completed an online survey assessing their mental health status and COVID-19 symptoms. After signing an electronic informed consent, respondents completed a questionnaire battery including: the PTSD checklist (PCL-5), the Obsessive-Compulsive Inventory, Short Version (OCI-R), the Generalized Anxiety Disorder-7 (GAD-7), the Patient Health Questionnaire (PHQ-9), and the Brief Resilient Coping Scale (BCRS), as well as general questionnaires regarding their COVID-19 experience. Data collection is currently ongoing. **Results:** To date, 787 participants have completed the survey; 79.9% were from North America; 81.4 % were female; 85.6% white; mean age 42.5 ±12.4 years; 86.1% lived with others. Hospitalization due to COVID-19 was reported in 15.5%; of those hospitalized, 28.7% were treated in the Intensive Care Unit. Most stayed in hospital less than 1 week (41.8%); 11.4% stayed more than 4 weeks. Most (68%) had not returned to normal functioning. All (100%) reported current, persistent symptoms of COVID-19. The most commonly reported persistent symptoms were fatigue (75.9%), brain fog (67.9%), concentration difficulties (61.1%), and weakness (51.2%). Only 11.8% of the sample did not report persistent neurocognitive symptoms. In addition to poor memory/concentration the most common of these symptoms were word finding (56%) and slowed thinking (54.1%). One third (43.3%) reported having past treatment for their mental health; 33.5% were currently receiving mental health treatment.

The mean GAD-7 and PHQ-9 scores were above the clinical threshold (>9) indicating high rates of anxiety (41.7%) and depression (61.4%). PCL-5 clinical threshold (>30) was exceeded by 40.5%, indicating a high rate of probable PTSD. Predictors of PTSD included living alone vs. with others ( $p<.05$ ), having been hospitalized with COVID-19 vs. not ( $p<.001$ ), being age 30 or lower ( $p<.05$ ) or between 31 and 50 vs. over 50 ( $p<.01$ ). The mean resilience score was  $13.6\pm 3.3$ , indicating low resilience. **Conclusion:** In this online sample of COVID-19 survivors, all continued to experience persistent physical or neurocognitive symptoms and high rates of mental health problems were reported. One third met clinical threshold for PTSD. This adds to the growing literature documenting a mental health pandemic in the wake of COVID-19.

#### **No. 65**

##### **General Anxiety Disorder-7 Questionnaire as a Marker of Overall Health and Inequity**

*Poster Presenter: Julio C. Nunes, M.D.*

*Co-Authors: David Soonil Hong, M.D., Sarah Short, Megan Carroll*

#### **SUMMARY:**

**Background.** The General Anxiety Disorder-7 (GAD-7) questionnaire is the standard tool used for screening and follow-up of patients with Generalized Anxiety Disorder (GAD). Although it is generally accepted that anxiety correlates with clinical and psycho-social stressors, precise quantitative data is limited on the relations among GAD-7, biomarkers, and other measures of health. Even less is known about how GAD-7 relates to race, ethnicity, and socioeconomic status (SES). **Objective.** To trace relationships among the GAD-7 and several measurements of health, psychometric parameters, demographics, and socioeconomic status. **Design and Participants.** The Baseline Health Study (BHS) is a prospective cohort of adults representing several populations in the USA. We analyzed a deeply phenotyped group of 2365 participants from that study. We determined how several demographic, socioeconomic, laboratory, physical function, clinical, and imaging markers correlate with the participants' GAD-7 results. **Interventions.** None. **Main Measures.** Clinical markers or history of

medical diagnoses, physical function markers including gait, grip strength, balance time, daily steps, and echocardiographic parameters, psychometric measurements, activities of daily living, and laboratory results. **Key Results.** Higher GAD-7 scores were associated with female sex, younger patients, and Hispanic ethnicity. Measures of low SES were also associated with higher scores, including unemployment, income = \$25,000, and =12 years of education. After adjustment for 150 demographic, clinical, laboratory, and symptom characteristics, unemployment was the 5th most predictive factor of high anxiety scores. The most predictive symptoms for anxiety were tension, memory changes, body image concerns, shortness of breath, low back pain, and bloating. Their high predictive power persisted after adjustment. Surprisingly, high blood monocyte count was the 6th most predictive factor. Protective factors included black race and older age. **Conclusions.** These findings highlight the importance of understanding anxiety as a biopsychosocial entity. Providers need to consider both the physical manifestations of the disorder and their patients' social determinants of health when designing interventions.

## No. 66

### **Synergy Between VMAT2 Inhibitors and Antipsychotics in Animal Models of Schizophrenia**

*Poster Presenter: Dimitri Grigoriadis*

*Lead Author: Sam Hoare*

*Co-Author: Andrea Kudwa*

#### **SUMMARY:**

**BACKGROUND:** Vesicular monoamine transporter 2 (VMAT2) inhibitors and antipsychotics have the potential to act synergistically as both target dopaminergic (DA) signaling in the central nervous system. While antipsychotics block postsynaptic DA receptors, VMAT2 inhibition lowers synaptic DA levels by preventing uptake into presynaptic secretory vesicles. The effects of a coadministered antipsychotic and VMAT2 inhibitor were evaluated using animal models of schizophrenia while also assessing potential for lack of concomitant weight gain (primary side effect of antipsychotics).

**METHODS:** In one animal model of schizophrenia (conditioned avoidance response [CAR]), rats were

dosed with an antipsychotic (risperidone or olanzapine), [+-]-alpha-dihydrotetrabenazine, [+-]-a-HTBZ, an inhibitor of VMAT2), and/or vehicle and tested in 20 trials of foot-shock avoidance. Antipsychotic effects were defined as CAR suppression or "escape" (failure to avoid foot shock despite prior conditioning). Synergy was defined as CAR suppression when antipsychotic and [+-]-a-HTBZ were co-administered at subthreshold doses (ie, doses with no CAR suppression when administered individually). Synergy was also evaluated based on shifts in the antipsychotic plasma concentration-response (C-R) curve (with response defined as number of escapes) with [+-]-a-HTBZ coadministration. Changes in weight were assessed for olanzapine, [+-]-a-HTBZ, and both combined. **RESULTS:** At subthreshold doses, the mean number of escapes for [+-]-a-HTBZ alone (0.8 [0.15 mg/kg]) and risperidone alone (0.7 [0.1 mg/kg]) were comparable to vehicle (0.4). CAR suppression increased when subthreshold doses of [+-]-a-HTBZ and risperidone were combined (range, 6.5-7.1 escapes), and the results were comparable to the effects at threshold doses for [+-]-a-HTBZ alone (4.8-11.4 escapes [0.3 mg/kg]) and risperidone alone (7.2-8.0 escapes [0.3 mg/kg]). This synergistic effect was not due to a drug-drug interaction, as the combination of drugs did not significantly affect the plasma concentration of either agent. Subthreshold [+-]-a-HTBZ also increased the potency of risperidone for CAR suppression, as evidenced by a leftward shift of the C-R curve. Similar CAR suppression and C-R curve results were observed with the coadministration of [+-]-a-HTBZ and olanzapine. Weight gain was observed with olanzapine, but coadministration with [+-]-a-HTBZ did not further increase weight. **DISCUSSION:** The observed synergistic effect is consistent with a reduction of presynaptic DA resulting from VMAT2 inhibition, which in turn decreases the level of postsynaptic DA receptor blockade required for an antipsychotic effect. VMAT2 inhibition therefore mitigates the counterproductive presynaptic stimulation of DA by antipsychotics. These results suggest that combining VMAT2 inhibition with antipsychotic treatment will provide favorable clinical outcomes for efficacy without potentiation of a side effect of weight gain.

## No. 67

### **Classification of BPAD, MDD, SZ and Controls on Nucleus Accumbens, Anterior Cingulate and Dorsolateral Prefrontal Cortex Using Rnaseq Data**

*Poster Presenter: Hugo Gomez Rueda, M.D.*

#### **SUMMARY:**

**Introduction:** The majority of psychiatric disorders are the result of the complex interaction of multiple molecular variables (1). These multiple molecular variables have made difficult the association of psychiatric disorders to specific molecular signatures. Some authors have discovered different transcriptional profiles across Major Depressive Disorder (MDD), Bipolar Affective Disorder (BPAD), and Schizophrenia (SZ) while molecularly analyzing different brain areas (2,3). Here, the online RNASeq dataset of GSE80655 was explored with a different bioinformatic pipeline, to additionally identify molecular signatures across BPAD, SZ, MDD, and healthy controls (HC), in 3 different brain areas, nucleus Accumbens (nAcc), Anterior Cingulate (AnCg) and Dorsolateral Prefrontal Cortex (DLPFC).

**Materials and Methods:** The database GSE80655 from Geo datasets was used. The data comprised gene expression measured with RNA Seq from nAcc, AnCg and DLPFC of subjects with MDD, BPAD, SZ, and HC. Firstly, a differential expression with DESeq2 R software was done using the function DESeq. The genes were ranked from the lowest to the highest p-value. The first 200 genes with the lowest p-value ( $< 0.05$ ) were arbitrarily selected. The expression data of those 200 genes were normalized using quantile normalization and then uniformized, to avoid the statistical noise in the analysis. GALGO R software was used to classify BPAD, MDD, SZ, and HC in the 3 different areas independently. A Forward Selection Model was used to identify the best genes that classified between these 4 classes in nAcc, AnCg and DLPFC. Lastly, a comparison of the models was made with a Venn Diagram, as well as an enrichment analysis using the online database of STRING.

**Results:** Each subset of the dataset GSE80655 contained AnCg (24 BPAD, 24 MDD, 24 SZ, 24 HC), DLPFC (23 BPAD, 23 MDD, 24 SZ, 24 HC), and for nAcc (24 BPAD, 22 MDD, 23 SZ, 22 HC). The number of initial RNASeq probes were 57,906, and the first 200 genes with the lowest p-value ( $< 0.05$ ) were selected. The Venn diagram showed that 2 genes

were shared by the 3 subsets, 14 among DLPFC and AnCg, 6 among DLPFC and nAcc, and 3 among AnCg and nAcc. The best genes selected with the FMS that classified among the 4 classes were 32 genes in the AnCg, 25 and 20 in the DLPFC and nAcc, respectively. After the selection of the best genes with GALGO, none of the best genes were shared in any of the database subsets. Three heatmaps showed gene differences among the 4 classes, and the enrichment analysis showed a relationship among the best genes selected with the FSM in the 3 brain areas. The network showed important genes such as TP53, UBE3A, BAG3, CDC37, AHSA1, STUB1, and NR3C1.

**Conclusion:** There are different gene signatures in the areas of nAcc, AnCg and DLPFC. However, these genes have intrinsic interactions from a metabolic perspective.

## No. 68

### **Can Lithium Reduce the Risk of Osteoporosis? A Population-Based Study of 22,912 Patients With Bipolar Disorder**

*Poster Presenter: Soren D. Ostergaard, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Osteoporosis, a systemic skeletal disorder associated with substantial morbidity and mortality, has been suggested to be particularly common among individuals with bipolar disorder. Lithium, a first-line mood-stabilizing treatment for bipolar disorder, may have bone-protecting properties. The aim of this study was to subject both of these hypotheses to further examination in a register-based study. **Methods:** We conducted a retrospective cohort study based on data from Danish registers. Specifically, we included all individuals receiving their first ICD-10 diagnosis of bipolar disorder in the period from January 1, 1996 to January 1, 2019. For each patient with bipolar disorder, five age- and sex-matched controls were randomly drawn from the general population. For the patients with bipolar disorder, we identified all treatment periods with lithium, antipsychotics, valproate and lamotrigine. The first exposure was bipolar disorder (comparison of the risk of osteoporosis among patients and matched controls). The second exposure was treatment with lithium, antipsychotics, valproate and lamotrigine

(comparison of the risk of osteoporosis among patients with bipolar disorder receiving or not receiving these drugs). The outcome was osteoporosis, identified via hospital diagnoses and prescribed medications. First, we compared the incidence of osteoporosis between patients with bipolar disorder and the age- and sex-matched controls (earliest start of follow-up at the age of 40 years) using Cox regression. Subsequently, we compared the incidence of osteoporosis for patients receiving treatment with lithium, antipsychotics, valproate and lamotrigine, respectively, with that of patients not treated with these medications.

**Results:** We followed 22,912 patients with bipolar disorder (median age 50.4 years, 43.4% men) and 114,560 matched controls for a total of 1,215,698 person-years (median: 7.7 years). The incidence of osteoporosis per 1000 person-years was 8.70 (95%CI:8.28-9.14) among patients with bipolar disorder and 7.84 (95%CI:7.67-8.01) among controls, resulting in a hazard rate ratio (HRR) of 1.15 (95%CI:1.09-1.21). Patients with bipolar disorder treated with lithium had a reduced risk of osteoporosis (HRR=0.62; 95%CI:0.53-0.72) compared to patients not receiving lithium. Conversely, treatment with antipsychotics, valproate and lamotrigine was not associated with reduced risk of osteoporosis. **Conclusion:** This is the first longitudinal study to show that treatment with lithium is associated with reduced risk of osteoporosis.

#### **No. 69**

##### **Local Farm to Client Table: A Pilot Program for Healthy Food Access and Preparation for Individuals With SMI**

*Poster Presenter: Merrill Richard Rotter, M.D.*

*Co-Authors: Dana E. Cohen, M.P.A., Michael T.*

*Compton, M.D., M.P.H.*

#### **SUMMARY:**

Individuals with serious mental illness die up to 25 years earlier, on average, than individuals without serious mental illness. Furthermore, people of color experience a disproportionate burden of SMI-related morbidity and mortality. Shorter lifespans are driven by higher rates of chronic diseases, many related to unhealthy diet. Indeed, people with serious mental

illness are also more likely to experience food insecurity- a social determinant of health- compared to the general population. Challenges associated with mental disorders, including psychiatric symptoms and cognitive dysfunction, may render interventions designed to connect food-insecure communities with healthy foods inaccessible or ineffective for individuals with serious mental illness. This poster presentation will summarize the initial phase of a novel pilot that aims to address food insecurity among individuals with serious mental illnesses by connecting them with and educating them round the use of farmer's market foods. We report on the development of a training tool that merges a USDA nutrition curriculum with psychiatric rehabilitation-based principles, and with consultation from local chefs teach individuals with mental illness about healthy food and its preparation. In addition, we describe the early experience of bringing farmers market produce to clients living in supportive housing and congregate living settings, and in so doing demonstrate successful collaboration between state agencies, academic centers and community programs in the service of addressing the nutritional needs of a disenfranchised population for whom addressing healthy food access presents unique challenges.

#### **No. 70**

##### **Addressing Unemployment With Center for Urban Community Services' Career Network: A Case Report**

*Poster Presenter: Marco Christian Michael, M.D.*

*Co-Author: Arkaprava Deb*

#### **SUMMARY:**

A psychiatry resident is often faced with the task of providing comprehensive psychiatric evaluation, which includes patient's functional level. Patients with severe mental illness (SMI) have difficulty getting employment frequently as part of their presentation. Unemployment has negative consequences towards one's health, whereas employed SMI patients report higher quality of life and reports less psychiatric symptoms.

Unfortunately, many psychiatry residents are not sufficiently trained to address this need. This case report illustrates how psychiatry residents can

collaborate with community partners in order to address patient's unemployment status and how securing a job can result in patient's improved mood without any medication adjustments. We present a Caucasian single male in his 40s with two prior psychiatric admissions who has been unemployed since 2006. Previously, he was working as an accountant until he quit his job due to depressive symptoms and caring for his mother who was battling cancer. Furthermore, he had monetary dispute with a coworker which led to his arrest for trespassing and eventual referral to a state psychiatric facility. After discharge, he began outpatient treatment in our resident clinic. Previously, he completed intensive weekly CBT psychotherapy and had several medication trials, including bupropion XL, quetiapine, and sertraline, with minimal effect. After his case was transferred to the lead author, he continued weekly dynamic psychotherapy, and agreed to start fluoxetine, which was uptitrated to 80mg. He was diagnosed with persistent depressive disorder, obsessive compulsive disorder, and schizoid personality traits through psychological testing. Patient's desire to work, cause of depressive symptoms, preparation towards mother's death were explored in therapy. After processing her death, patient is supported to return to gainful employment and agreed for a referral to the Center for Urban Community Services (CUCS) Career Network. He started working with an employment specialist for individual weekly supportive employment, including submitting job applications, preparing for interviews, and helping normalize rejections as part of job-search process. Eventually, he was accepted to work as a full-time civil service employee. He continues to report satisfaction with his current job with good performance review. His psychotherapy sessions were reduced to every other week to support his full-time work schedule. By assisting patient with gaining employment, he was able to report improvements in mood and social engagement of which medications would not be able to adequately address. To further improve residents' education in addressing unemployment, CUCS Career Network staff has been invited to discuss individualized placement support (IPS) and supportive employment with our psychiatry residents. SUNY Downstate's

goal is for all psychiatry residents to feel confident when referring to IPS services.

#### No. 71

### **Generalized Joint Hypermobility Does Not Affect ADHD Outcome in Adults; a Large Multicenter Cross-Sectional Study**

*Poster Presenter: Martin Glans*

*Co-Author: Mats B. Humble*

#### **SUMMARY:**

**Background:** Generalised joint hypermobility (GJH) and attention-deficit hyperactivity disorder (ADHD) are associated conditions, and a shared aetiopathology has been suggested(1)(2)(3). However, detailed knowledge about the association is lacking. This study aimed to examine how comorbid GJH affects ADHD outcome. **Methods:** This multicentre cross-sectional study was carried out in 4 psychiatric outpatient clinics specialized in adult ADHD in Sweden between 2015 and 2021. We collected self-reported clinical data and assessed joint hypermobility amongst adult patients (age 18-65) with ADHD. GJH was assessed by physical examination using the Beighton Scoring System (BSS). Outcome variables included the 12-item self-report WHO Disability Assessment Schedule (WHODAS), the Adult ADHD Self-Report Scale (ASRS-v1.1) and consumption of ADHD medication (yes/no). Separate linear- and logistic regression models examined the effect of GJH on the respective outcome variable, while adjusting for candidate covariates age, sex and race. **Results:** 503 patients with ADHD were included in the study; 122 with co-existing GJH (mean age=30.1, 83.5% female, 70.5% Nordic origin) and 381 without co-existing GJH (mean age=34.3, 54.6% female, 77.4% Nordic origin). GJH exerted a statistically significant effect on WHODAS total score (range 0-48), with an increase of 2.1 points (95% CI .23-3.9 p= .027). GJH did not exert a statistically significant effect on ASRS total- and subscale scores or on consumption of ADHD medication. **Conclusion:** In adult patients with ADHD, coexisting GJH alone does not affect ADHD symptom frequency or consumption of ADHD medication. Although statistically significant, the clinical significance of the effect of GJH on average functioning in everyday situations is uncertain.

Future studies should include additional outcome measures, and investigate how symptomatic-GJH (e.g. hypermobility spectrum disorders and Ehlers-Danlos Syndrome) affects ADHD outcome. This study was supported by from the Swedish Research Council to SB and by grants from Bror Gadelius minnesfond to MG.

## **No. 72**

### **The Sound of Silence: Cognitive Biases and Socioeconomic Barriers Leading to Delayed Diagnosis of Metastatic Cancer**

*Poster Presenter: Michael T. Jennings, M.D.*

*Co-Authors: Jennifer Wang, Mallory Cash*

#### **SUMMARY:**

2.6 million, 41% Hispanic, 25% uninsured and 14% in poverty—this is the most recent US Census snapshot of Dallas County, Texas—home of our quaternary safety net hospital. In the following case, we propose how the intersection of race, non-native English language, low socioeconomic status, low health literacy and lack of a primary care home delayed diagnosis of metastatic cancer. Ms. B is a 53-year-old Spanish-speaking, Hispanic female with a history of depression who presented to our ED for failure to thrive. In the month prior, she was seen at two outside EDs for intractable headache and “medical clearance” for a psychiatric admission for depression. She was incidentally diagnosed with pneumonia and treated. Concern for catatonia was noted, but no treatment was given. Brain MRI and lumbar puncture were “normal”. She was eventually discharged home. Collateral history from family revealed “worsening depression” and a progressive decline in her health that was correlated with the death of her father eight months prior. Family noted worsening psychomotor slowing, mutism and a significant decrease in oral intake. The ED psychiatry team diagnosed her with catatonia secondary to depression. A lorazepam challenge was equivocal. A positive COVID-19 result led to her medical admission and involvement of the CL psychiatry team. She was started on scheduled lorazepam which resulted in sedation and no lysis of catatonic symptoms. Adjunctive valproic acid was added but was equally ineffective. Questioning the catatonia diagnosis, we recommended repeat imaging and CSF

sampling; however, given normal findings from the OSF, the utility of further workup was felt to be low and was discouraged. We noted an isolated and gradually rising ALP level of unclear etiology. A GGT level was normal, suggesting an extra-hepatic source. Extensive review of OSF records noted a possible small pulmonary mass obscured by acute pneumonia. These factors raised concern for an underlying malignancy with bone metastases. Repeat imaging was again recommended. Brain MRI showed innumerable foci throughout the cerebral and cerebellar hemispheres, the basal ganglia and the thalamus. CT scans revealed widespread osseous lesions. Two months after her first presentation to an OSF, metastatic disease from a primary pulmonary adenocarcinoma was diagnosed. This case highlights the impact of a patient’s social determinants of health on the time to disease diagnosis and treatment, quality of medical care, and health outcomes. The patient’s race, language, socioeconomic status, and health literacy limited her access to a PCP and preventative measures. Her case also highlights anchoring bias that led to delays in diagnosis due to repeated attribution, by both family and healthcare system, of her symptoms to depression. If social determinants of health and cognitive biases are not addressed, patient safety and outcomes may be negatively affected, especially in marginalized patient populations.

## **No. 73**

### **When Being Antagonistic Is a Good Thing: Using Memantine as Salvage Therapy for Catatonia From NMDA-Receptor Encephalitis**

*Poster Presenter: Samir Johnny Abu-Hamad, M.D., M.S.*

*Co-Author: Diana M. Robinson, M.D.*

#### **SUMMARY:**

A 25-year-old Hispanic man with no significant psychiatric or medical history presented to an academic hospital from jail with new-onset manic and psychotic behavior. He was initially held in the psychiatric emergency department where he was continuously agitated, requiring six rounds of emergent intramuscular antipsychotic and benzodiazepines during a 68-hour time-period. He was admitted to the medical floor for tachycardia

and decreased responsiveness thought to be due to anticholinergic toxicity. Initial psychiatric evaluation revealed a Bush Francis Catatonia Rating Scale (BFS) of 15/30 which improved to 4/30 after a one-time dose of 2 mg intravenous lorazepam. Thus, the presentation was consistent with catatonia. Despite treatment with increasing doses of scheduled lorazepam, his catatonia worsened, as was corroborated by the BFS reaching a peak of 24/69. Neurologic workup with MRI, EEG, and LP was unrevealing, however scrotal ultrasound detected a 7 mm seminoma in the left testicle, making NMDA-Receptor (NMDA-R) Encephalitis from a testicular germinoma the underlying cause of his catatonia. This was confirmed by autoimmune panel from CSF. He received an orchiectomy with Urology with reduction in BFS to 18. Due to significant ongoing catatonic symptoms, he was given a one-time infusion of Rituximab and started on oral Memantine 5 mg daily with reduction in BFS to 10-17. Memantine was later uptitrated to 5 mg twice a day - while lorazepam was weaned down - with continued improvement in catatonic symptoms. After stabilization, he was discharged to an inpatient rehabilitation facility. This case illustrates several key points regarding the diagnosis and management of catatonia due to NMDA-R encephalitis. First, catatonia has a medical etiology in up to 46% of cases (Stern 2018), and this rate increases with age and level of care (Oldham 2018). Second, about 20-30% of cases do not respond to treatment with benzodiazepines and alternative treatments are available (Beach 2017). There is growing case series evidence of the use of NMDA antagonists, such as memantine, in the treatment of benzodiazepine-resistant catatonia through its direct glutamate antagonism and indirect GABA and dopamine effects. These findings are based on the hypothesis that NMDA hyper-excitability in striato-cortical and cortico-cortical pathways and loss of GABA-A and dopamine in these regions may represent the pathophysiology of benzodiazepine resistant catatonia (Hervey 2012). However, given its antagonistic activity at the NMDA receptor, memantine should theoretically worsen NMDA-R encephalitis and thus the associated catatonia. In turn, many clinicians are hesitant to prescribe memantine for such cases, with scant evidence to refute this. This is a unique case that demonstrates

memantine's utility and safety profile in cases of NMDA-R encephalitis-induced catatonia through a patient who was falsely assumed to have a primary psychiatric illness due to demographic factors.

#### **No. 74**

#### **Sex Differences in Responses to Antidepressant Augmentations in Treatment-Resistant Depression**

*Poster Presenter: Christophe Moderie*

*Co-Authors: Gabriella Gobbi, M.D., Stefano Comai, Nicolas Nunez*

#### **SUMMARY:**

**Background:** Women are nearly twice as likely as men to suffer from major depressive disorder (MDD), and this sex difference is among the most robust of findings in psychopathology research<sup>1,2</sup>. Yet, there is a dearth of studies comparing the clinical outcomes of women and men with treatment-resistant depression (TRD) treated with similar augmentation strategies<sup>3</sup>. We aimed to evaluate the effects of the augmentation strategies in women and men at the McGill University Health Center. **Methods:** We reviewed health records of 76 patients (42 women, 34 men) with TRD, treated with augmentation strategies including antidepressants with mood stabilizers (AD+MS) or antipsychotics (AD+AP) or in combination (AD+AP+MS). Clinical outcomes were determined by comparing changes on the HAMD-17, MADRS, QIDS-C16 and CGI-S at the beginning (T0) and after three months of an unchanged treatment (T3). Changes in individual items of the HAMD-17 were also compared between the groups. **Results:** Women and men improved from T0 to T3 on all scales ( $p < 0.001$ ,  $\chi^2 = 0.68$ ). There was also a significant sex x time interaction for all scales ( $p < 0.05$ ,  $\chi^2 = 0.06$ ), reflecting a greater improvement in women compared to men. Specifically, women exhibited greater improvement in early ( $p = 0.03$ ,  $\chi^2 = 0.08$ ) and middle of the night insomnia ( $p = 0.01$ ,  $\chi^2 = 0.09$ ), as well as psychomotor retardation ( $p < 0.001$ ,  $\chi^2 = 0.16$ ), psychic ( $p = 0.02$ ,  $\chi^2 = 0.07$ ) and somatic anxiety ( $p = 0.01$ ,  $\chi^2 = 0.10$ ). **Conclusions:** The combination of AD+AP/MS generates a significantly greater clinical response in women compared to

men with TRD supporting the existence of distinct pharmacological profiles between sexes. Yet, a recent analysis by the Group for the Study of Resistant Depression (GRSD) showed a trend towards a more frequent administration of add-on treatments in men than in women<sup>3</sup>. Our results emphasize the importance of augmentation strategies in women with TRD, underscoring the benefit of addressing symptoms such as insomnia and anxiety with AP and MS. This research was supported by the RQSHA (Réseau québécois sur le suicide, les troubles de l'humeur et les troubles associés)

**No. 75**  
**Effect of Adverse Childhood Events and Adult Stress on Antidepressant Response in Vulnerable Populations**

*Poster Presenter: Caitlin Sherman, M.D.*

*Co-Authors: Lydia Nelson, Julianna Paul, Isabel Lagomasino*

**SUMMARY:**

**Background:** Despite widespread use, antidepressant medications have limited efficacy, with up to 50% of medicated patients failing to achieve remission<sup>1</sup>. Treatment failure is associated with increased personal and societal burden with 40% greater lifetime health care costs<sup>2</sup>. However, research on predictive factors of treatment resistance in vulnerable populations is limited. To address this gap, the current study assessed the association between adverse childhood experiences (ACE) and adult stress experience on treatment-resistant depression (TRD) in a lower-income, uninsured, primarily Latinx patient population.

**Method:** 33 adult participants with a primary diagnosis of major depression or persistent depressive disorder were recruited from an outpatient psychiatric clinic in the greater Los Angeles area (LAC+USC). The ACE Scale and the Perceived Stress Scale were administered through telephone interviews with participants. Treatment resistance served as the dependent variable and was quantified using the Maudsley staging method via clinical interview and chart review, and depression symptom severity was assessed using the PHQ-9. Suicidality was concurrently assessed by our

colleagues. The effect of ACE and perceived stress on both treatment resistance and depression severity were assessed via logistic and linear regression respectively. **Results:** Participants were predominantly female (78%), Latinx (76%), unemployed (64%), lower income, and uninsured, with a mean age of 40.8 years (SD 11.6). Average ACE number was 4.3 (SD 3), with 51% of participants exposed to 4 or more ACE. Mean perceived stress was moderate at 19.42 (SD 9.2) and was significantly associated with treatment resistance ( $X^2 = 4.3$ ,  $df = 1$ ,  $p = 0.039$ ) while ACE number was not ( $X^2 = 0.1$ ,  $df = 1$ ,  $p = 0.993$ ). Perceived stress was also positively associated with depression severity ( $R^2 = 0.34$ ,  $F(1,31) = 15.6$ ,  $p < 0.001$ ) while ACE number was not ( $p = 0.3$ ). **Conclusion:** Few studies have assessed TRD in vulnerable groups. Our data showed that adult stress experience was positively associated with both treatment failure and depression severity in a lower-income, uninsured, primarily Latinx population, while ACE exposure was not associated with either. Because the ACE Scale was developed in an affluent, middle class, non-Latinx Caucasian population, it may not reflect the experiences of vulnerable populations<sup>3</sup>, as suggested by the elevated ACE exposure observed in this group. Future studies can investigate the directionality of the relationship between adult stress and TRD.

**No. 76**  
**Financial Predictors of Mental Health Disorders in a Large National Sample of College and University Students**

*Poster Presenter: Jillian Shah*

*Co-Authors: Anne Claire Grammer, Melissa Vázquez, Ellen Fitzsimmons-Craft, Denise Wilfley*

**SUMMARY:**

**Objective:** Low socioeconomic status (SES) college students are a high-risk group that share an overwhelming burden of mental illnesses. The literature varies in its determination of SES and there is little known about which measure best predicts risk for mental illnesses. The current study aims to evaluate two measures of low SES as predictors of increased risk for various mental health conditions. **Method:** Students across 25 U.S. universities and colleges responded to two items measuring SES as



part of the iAIM EDU study. Responses to the financial hardship (FH) item, "In the past month during college, how hard has it been for you to purchase expenses like tuition, textbooks, course materials, food, housing, and medical care?", were dichotomized into "high" and "low" FH. Students also reported on the highest level of education obtained by parent(s), and responses were dichotomized into first generation (FG) and non-FG groups. After controlling for age, race, and ethnicity, logistic regression analyses were conducted using R statistical software to determine the association between exposure to self-reported FH or FG status, and screening positive for anxiety disorders, eating disorders, and depression. **Results:** A total of 33,513 students completed both FH and FG items and relevant screening items for social anxiety disorder (SAD), panic disorder (PD), generalized anxiety disorder (GAD), major depressive disorder (MDD), anorexia nervosa, bulimia nervosa, and binge eating disorder. Students who reported high FH were more likely to screen positive for a clinical or subclinical eating disorder (OR: 1.75, 95% CI: 1.61-1.90,  $p < .001$ ), PD (OR: 1.94, 95% CI: 1.78-2.12,  $p < .001$ ), GAD (OR: 2.40, 95% CI: 2.25-2.55,  $p < .001$ ), SAD (OR: 1.66, 95% CI: 1.55-1.80,  $p < .001$ ), and MDD (OR: 2.32, 95% CI: 2.18-2.48,  $p < .001$ ) compared to students reporting low FH. FG students were more likely to screen positive for PD (OR: 1.33, 95% CI: 1.21-1.46,  $p < .001$ ), GAD (OR: 1.39, 95% CI: 1.20-1.48,  $p < .001$ ), SAD (OR: 1.49, 95% CI: 1.38-1.61,  $p < .001$ ), or MDD (OR: 1.12, 95% CI: 1.05-1.20,  $p < .001$ ) compared to non-FG students, but were not significantly more likely to screen positive for a probable eating disorder (OR: 1.09, 95% CI: 1.00-1.19,  $p = .04$ ). Overall, FH was a better predictor of a student screening positive for all disorders in comparison to FG status. **Discussion:** In this study of a national sample of students, FG status (a common proxy for low SES) was not as strong of a predictor of anxiety, depression, and eating disorder risk in college students when compared to a self-reported measure of experienced FH. Low SES students face unique barriers to accessing mental health treatment, and the results of this study may assist colleges in optimizing their allocation of resources as well as their surveillance and identification of mental illnesses by utilizing more nuanced predictors of low

SES. This study was supported by the National Institute of Mental Health.

#### No. 77

### **Trainee-Led Design and Implementation of Structural Competency Didactics for Psychiatric Residents at a Large Safety-Net Hospital**

*Poster Presenter: Kelly Park, M.D.*

*Co-Authors: Jennie Yoo, M.D., Christine Annibali*

#### **SUMMARY:**

Current graduate medical education requirements highlight the importance of understanding health within broader social contexts and demonstrating "respect and responsiveness to diverse patient populations" (1). To this end, structural competency has been introduced as a framework within which healthcare providers can engage in a radical examination of implicit biases, dismantle inequitable systems of power, and advocate for political transformation (2,3). For psychiatric residents working with marginalized communities, routine encounters with health disparities and complex systems of care often provide an informal education on structural competency. In contrast, traditional didactics have historically focused on pharmacology and psychopathology, with "diversity"-oriented details relegated to the margins. In this educational case report, we describe the development and implementation of a structural competency didactics series by and for psychiatry residents at Los Angeles County + University of Southern California (LAC+USC). Curricular development began in 2020 with a review of existing didactic topics by the annual Curriculum Review Committee of resident and faculty volunteers. The following areas of improvement were identified: historical analysis, community-based initiatives, and political education. A pilot series was implemented during the 2020-2021 academic year totaling 4 hours of instruction for PGY-1, PGY-2, and PGY-4 classes. Content experts from non-clinical departments (e.g., public health, anthropology, and sociology) were recruited by residents to speak on topics ranging from the urban history of east Los Angeles to addiction and incarceration. Each lecture was 50 minutes in length and designed for 12 learners. Based on feedback during informal monthly reviews as well as the

annual Curriculum Review Committee, this trainee-designed curriculum was formally incorporated into the formal class didactics schedule and expanded into a longitudinal course involving lectures, case-based discussions, and collaboration with community organizations. Data was collected before and after PGY-2 case discussions with anonymous surveys including quantitative and qualitative evaluations. This pilot program demonstrated how trainee-led development of structural competency education could be integrated into formal class didactics as a step toward providing structurally competent care at a large safety-net hospital.

#### **No. 78**

##### **Health Care Inequities in Rural Undocumented Populations; a Grassroots Effort to Start an Asylum Clinic in Rural America**

*Poster Presenter: Sarah Vaithilingam*

*Co-Author: Craig Donnelly*

#### **SUMMARY:**

**Introduction:** Asylum law emerged from human rights treaties created after the Second World War. In 1968 and again in 1980 the US enacted Refugee ACTs which made this international obligation part of US law. The issue is substantial and growing. In 2016 over 65 million individuals were displaced from their homes due to human rights abuses worldwide and approximately 262,000 applied for Asylum in America. Healthcare professionals can play a crucial role in the asylum process by conducting clinical evaluations and formulating medical affidavits. Only 37.5% of asylum seekers overall are granted asylum in the US, whereas 89% of those with medical affidavits are granted asylum. At Dartmouth-Hitchcock Medical center we have created a grassroots "Asylum Clinic" in our rural region, leveraging the talent, interests and resources of physician trainees and our academic medical center.

**Development of the Clinic:** Psychiatrists have a unique role, in documenting and interpreting psychological findings related to torture and maltreatment. We enrolled in a course offered by the organization "Physicians for Human Rights" to learn more about the process of engaging clients and their lawyers and formulating legal affidavits. We then partnered with experienced Attending

physician supervisors at Dartmouth-Hitchcock Medical Center and initiated the clinic. Over the past 3 months we have written 3 affidavits, demonstrating the critical need for these services in rural communities. Our goal is that by establishing an asylum clinic at Dartmouth, rural clients in our region will improve their probability of obtaining asylum in America and be able to connect to vital services to support their presence in the community. Secondary goals are to expand this program and attract more healthcare trainees both inside and outside of psychiatry to develop expertise in this specialty area. We expect that this will promote Dartmouth as a center for asylum and refugee work making it an attractive choice for trainees interested in this aspect of international healthcare. **Discussion:** This project has been eye opening in illustrating the inequities that undocumented persons in America face in regards to adequate access to Mental Health Care and Legal services. Modern medical trainees are increasingly confronted with the challenge of how to provide health care services to uninsured, undocumented asylum seekers. In American medical schools and training institutions we have very little opportunity to obtain experience in this area. Considering the millions of people that have been displaced worldwide, there needs to be more relevant curriculum to be able to equitably distribute our services. In our eyes, what better way than to start up our own nonprofit Asylum clinic?

#### **No. 79**

##### **Evidence for Using Electroconvulsive Therapy in Individuals With Dementia: A Systematic Review**

*Poster Presenter: Anil Bachu*

#### **SUMMARY:**

**Objective:** Dementia is the second leading cause of mortality in older individuals (Li & Yao, 2020). ECT has been found to be safe and effective in the treatment of depression and mania in older adults, with or without dementia (Sutor & Rasmussen, 2008). The objective of this study is to conduct a systematic review of the literature on evaluating the efficacy and tolerability of electro convulsive therapy in individuals with dementia. **Methods:** We conducted a systematic search of five major databases including Pub Med, Medline, Psych Info,

Embase and Cochrane collaboration with “ECT” and “Dementia” as our search terms. There were no time or language restrictions placed on the selection of the studies. However, we only used studies that were published in English or had an official English translation in our final review. **Results:** A total of 134 published articles were identified using our search strategy. Of these, only 28 articles were deemed eligible for a full-text review. Of the 28 articles, 20 were case reports, five were case series and three were retrospective chart reviews. We did not identify any randomized controlled trials (RCT) for the use of ECT in individuals with dementia. A total of eight articles evaluated the use of ECT in individuals with dementia and depressive symptoms (Rodriguez & Suarez, 2013). Seven articles evaluated the use of ECT in individuals having agitation and aggression in dementia. Two articles each evaluated the use of ECT in individuals with dementia who had psychotic features, catatonic symptoms, and yelling and screaming (Ujkai & Davidoff, 2012). One article identified the use of ECT for an individual who has manic symptoms. A total of six articles that evaluated in use of ECT in individuals with dementia looked at one or more behavioral symptoms. All of the studies under review reported symptomatic benefits in individuals with dementia. We found that, on average, 4 – 8 sessions of ECT were used in these studies. The majority of studies reported significant side effects with the use of ECT including cardiovascular and neurological adverse effects. **Conclusion:** Available evidence from this systematic review indicates that there are no RCTs for the use of ECT in individuals with dementia. Current evidence from 28 nonrandomized studies reported symptomatic benefits from ECT for a variety of symptoms in individuals with dementia, including depression, mania, yelling and screaming, agitation, and a combination of these symptoms. Despite showing symptomatic benefit, a majority of the studies also indicate that the use of ECT results in significant adverse effects, namely cardiovascular and neurological effects in these individuals. It can be summarized that data from this systematic review indicates that ECT may be beneficial in certain individuals with dementia and behavioral symptoms, but significant adverse events may limit its use in these vulnerable individuals.

## No. 80

### The ECT-AD Clinical Trial: Study Rationale, Methodology, and Implementation

*Poster Presenter: Maria Isabel Lapid, M.D.*

*Co-Authors: Georgios Petrides, Brent P. Forester, M.D., M.Sc.*

#### SUMMARY:

**Background:** Over 90% of individuals with Alzheimer’s disease (AD) experience agitation which contributes to increased morbidity and mortality as well as caregiver burden. There are no FDA-approved treatments for severe agitation in people with advanced dementia. In this population off-label use psychotropic medications have limited efficacy and risk for adverse effects, and behavioral interventions are ineffective for severe agitation. There is preliminary evidence that electroconvulsive therapy (ECT) is safe and effective in the management of severe uncontrolled agitation in individuals with advanced dementia. In this poster we will describe the ECT-AD rationale for the study, methodology, and preliminary lessons learned from study implementation. **Methods:** The ECT-AD is a multi-site, NIH-funded, randomized controlled single-blind trial to investigate the safety and efficacy of ECT in severe and treatment refractory agitation and aggression in AD. The study has single IRB approval, and has Food and Drug Administration (FDA) approval for Investigational Device Exemption (IDE). The aims are to compare the relative (1) efficacy of up to 9 ECT treatments plus usual care (ECT+UC) versus Simulated ECT plus Usual Care (SECT+UC) and (2) tolerability/safety outcomes of ECT+UC versus SECT+UC participants with moderate to severe AD. Inclusion criteria include AD diagnosis, ages 55-89, MMSE = 15, Cohen-Mansfield Agitation Inventory Nursing Home Version (CMAI) score of >5 on at least one item of aggression or a physical nonaggressive item that holds potentially dangerous consequences, at least three failed pharmacological interventions, and authorized legal representative to give informed consent. Participants are randomized 1:1 to ECT+UC or Simulated-ECT+UC up to 9 sessions 3 times per week. The primary efficacy outcome is CMAI total score, assessed at baseline, after 3rd ECT/S-ECT (Time 1), after 6th ECT/S-ECT (Time 2), and after 9th ECT/S-ECT (Time 3). Secondary efficacy outcomes include Alzheimer’s Disease Cooperative

Study-Clinical Global Impression of Change Scale (ADCS-CGIC), Neuropsychiatric Inventory, Clinician Version (NPI-C), and Pittsburgh Agitation Scale (PAS). Tolerability is assessed with Severe Impairment Battery-8 (SIB-8), and safety is assessed with Confusion Assessment Method (CAM). For the 12-month naturalistic observational phase, the CMAI, Clinical Global Impression-Severity (CGIS), Zarit Caregiver Burden Interview (ZARIT), Quality of Life in Late-Stage Dementia Scale (QUALID), and Barthel Index (BI) are measured at baseline-2 and months 1, 3, 6, and 12. **Conclusion:** The study is ongoing. There were delays in startup related to regulatory aspects of securing IDE and sIRB. There are ongoing recruitment challenges due to COVID-19, family/caregiver and clinician factors, and high rates of non-AD dementia diagnoses. In this poster we will describe ongoing strategies to manage the challenges recruitment being encountered in the ECT-AD trial.

#### **No. 81**

##### **Optimizing Outcomes of Treatment-Resistant Depression (TRD) in Older Adults (OPTIMUM): Measures of Psychological Well-Being**

*Poster Presenter: Hanadi Ajam Oughli*

#### **SUMMARY:**

**Background:** The "Optimizing Antidepressants for Treatment-Resistant Depression in Older Adults" (OPTIMUM) study, funded by the Patient-Centered Outcomes Research Institute, is a 5-center collaboration that randomized 621 depressed individuals aged 60+ with treatment-resistant depression (TRD), the largest pharmacotherapy trial of TRD in late life. A key goal of this pragmatic trial was to measure outcomes of interest to patients, which in this trial included psychological wellbeing. This construct is closely tied to psychological and physical functioning and can be measured by self-report. **Methods:** Participants were recruited and randomized if they were 60 years and older, met the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for Major Depressive Disorder, and had a score of 10 or higher on the Patient Health Questionnaire (PHQ-9), despite having been treated with at least two antidepressants with an adequate dosage and for at

least four weeks (with previous psychotropic medications being different from the medications being tested in OPTIMUM). Upon study entry, participants were randomized to one of three strategies: augmentation with aripiprazole, augmentation with bupropion, or switch to bupropion. Treatment effectiveness was assessed using the Montgomery Asberg Rating Scale (MADRS) after ten weeks of treatment. Participants were also tested at the beginning and end of this 10-week step with the NIH Toolbox Psychological Well-being battery. Two wellbeing scales were used: positive affect (34 items) and general life satisfaction (16 items). Positive affect is characterized as happiness, contentment, and interest in pleasurable or achievement-relevant activities. Each item is scored on a 5-point scale ranging from "not at all" to "very much". General life satisfaction is the cognitive evaluation of life experiences; items assessing this concept are usually phrased in a general or global way rather than having a momentary or recent recall period. These items administered are scored on either a 5-point or 7-point scale ranging from "strongly disagree" to "strongly agree". **Results:** Of the 621 study participants, 212 were randomized to augmentation with aripiprazole, 206 to augmentation with bupropion, and 203 to a switch to bupropion. Participants randomized to augmentation with either aripiprazole or bupropion showed a statistically significant improvement in their general life satisfaction subscale score (aripiprazole: 2.99,  $p < 0.0001$ ; bupropion: 2.61,  $p = 0.0001$ ), while those switched to bupropion did not. Participants in either of the two augmentation arms also showed a statistically significant improvement in positive affect (aripiprazole: 5.35,  $p < 0.0001$ ; bupropion: 5.02,  $p < 0.0001$ ) while those switching to bupropion did not. **Conclusion:** Among older adults with TRD, augmentation with aripiprazole or bupropion was associated with significant improvement in psychological well-being and positive affect.

#### **No. 82**

##### **Barriers and Facilitators to Telehealth Use During the COVID-19 Pandemic**

*Poster Presenter: Alisha M. Subervi, M.D., M.P.H., M.Sc.*

*Co-Authors: Marialis Torres-Rodriguez, M.D., Karen G. Martinez, M.D., M.Sc., Rosaura Orengo-Aguayo, Ph.D.*

#### **SUMMARY:**

Background: Telehealth, is a cost-effective approach to patient care through electronic audio and video interactions<sup>2</sup>. Telehealth could increase access to mental health services in rural areas with less availability of providers, for patients with limited mobility, and limited time to physically access face to face care<sup>6,7,8\*</sup>. In order to understand the viability, use and widespread implementation of Telehealth in Puerto Rico, we need to assess the perspectives of provider's, patients, and government regulatory health agencies, as well as their experiences. Methods: The research study has a quantitative focus; it's design is exploratory, descriptive and cross-sectional. Subjects were recruited by convenience by sharing the questionnaire via the internet through RedCap. Results: A total of 231 participants (201 women [87.0%] and 30 men [13.0%]) responded to the questionnaire. 70.1% were psychologists, 10.3%, social workers, 8.0% were psychiatrists, 5.8% counselors, and 2.2% general practitioners. 219 (94.8%) live in Puerto Rico and 12 (5.2%) in the USA. 71.8% totally agreed that Telehealth should be approved by legislation and regulatory agencies. 36.1% had used Telehealth prior to COVID-19 pandemic. Providers used Telehealth with children (98, 45.8%), adolescents (126, 58.9%), young adults (140, 65.4%), adults (167, 78.0%), and elderly (84, 39.3%). 64.7% providers totally agreed they should be able to freely choose to continue Telehealth use after the pandemic. 55.6% accept medical insurance. 94.6% reported that medical insurance covered Telehealth sessions. Providers reported health insurances covered 20 minute (50%) and 45 minute sessions (40.9%). 58.6% referred health insurance coverage was the same prior to the use of Telehealth. Provider's identified lack of stable internet connection as a barrier (138, 67.6%; 178, 87.7%) and having stable internet connection as a facilitator (164, 84.5%; 178, 91.8%) to provider and patient use of Telehealth, respectively. Local laws and regulations (127, 62.3%) and negative perceptions of Telehealth (127, 62.3%) were additional barriers to provider's use of Telehealth. HIPAA approved platforms (158, 81.4%) was

identified as a facilitator to Telehealth use by providers. Lack of a video device was a barrier (172, 84.7%) while owning one was a facilitator (168, 86.6%) to Telehealth use by patients. Conclusion: By identifying the general perceptions, barriers, facilitators, and experiences mental health providers and patients have with Telehealth, we can assist legislators and regulatory boards toward improving Telehealth use after the COVID-19 pandemic. Working hand in hand with the government we can guide insurance companies towards justly reimbursing Telehealth services offered by all mental health providers (psychologists, counselors, social workers, psychiatrists, etc.) after the COVID-19 pandemic resolves in an effort to increase access to mental health care services throughout Puerto Rico.

#### **No. 83**

#### **Effect of Psychological Factors on COVID-19 Vaccine Hesitancy**

*Poster Presenter: Hee Jin Kim, M.D.*

*Co-Authors: Eun (Joanne) Kim, So Yeon Lee, M.D., Jae Hyun Ryou, Doug Hyun Han, M.D., Ph.D.*

#### **SUMMARY:**

**Introduction** Vaccination is thought to be essential to national control and prevention of the COVID-19 pandemic. However, vaccine hesitancy could be a barrier to full immunization against COVID-19. Vaccine hesitancy refers to a delay in acceptance or a refusal of vaccines, despite availability of vaccine services. We hypothesized that multiple factors including an individual's personality and psychological factors would be associated with vaccine hesitancy. **Methods** A total of 257 individuals without vaccination were recruited in the current study. Participants were asked to complete a self-report questionnaire including socio-demographic factors, health status, literacy of COVID-19 and infectious disease, and psychological factors. In a hierarchical logistic regression analysis of all participants' data, a discrete set of hierarchical variables, with vaccine acceptance or hesitancy as the dependent variable, was added to the demographic factors for model 1, model 1 + health status for model 2, model 2 + literacy of COVID-19 and infectious disease for model 3, and model 3 + psychological factors for model 4. **Results** Of the four

models in the current study, model 3 and model 4 were able to predict vaccine hesitancy. Presence of a chronic illness, high scores of perceived sensitivity to medicines (PSM), generalized anxiety disorder-7 (GAD-7), illness attitude scale (IAS), reward dependence (RD) scores, low complacency and collective responsibility were risk factors of vaccine hesitancy. Among the investigated factors, GAD-7, IAS, and collective responsibility in the COVID-19 version of the psychological antecedents of vaccination were the two strongest risk factors for vaccine hesitancy. **Conclusion** Based on the results of the current study, we suggest that psychological factors play a critical role in vaccine hesitancy. Instead of educating the general public about the risks of COVID-19 and the benefits of vaccination, policies should be aimed at resolving generalized anxiety and targeting one's reward dependence to effectively boost vaccine participation.

#### **No. 84**

##### **Perceptions of Psychoactive Drugs Among Psychiatrists in the United States: The Impact of National Drug Policy**

*Poster Presenter: Adam Wright Levin, M.D.*

*Co-Authors: Alan K. Davis, Ph.D., Paul Nagib*

#### **SUMMARY:**

**Background:** National drug policy aims to reflect the abuse and therapeutic potentials of drugs based on scientific knowledge, but there seems to be minimal adherence to the prevailing pharmacologic, neuroscientific, and psychiatric evidence. For example, despite being in Schedule 4 (S4, purportedly safe with low abuse risk), benzodiazepines are addictive and dangerous, whereas psilocybin, a Schedule 1 drug (S1, purportedly more dangerous and of no medical value), has shown therapeutic potential and low rates of misuse and physical harm. The current study examined whether psychiatrists' perceptions about the harms, abuse potential, or therapeutic benefits of different psychoactive drugs differ as a function of drug schedule. **Methods:** A national quasi-experimental cross-sectional online survey of psychiatrists (N=181; Mean age=48.7; Female=35%; Mean years practicing=16.2). Participants were randomized to receive 1-of-4 vignettes, each

depicting a depressed patient who reported relief from their depressive symptoms after recent use of 1-of-4 non-prescribed psychoactive drugs (i.e., psilocybin [S1], Desoxyn [Schedule 2, S2], ketamine [Schedule 3, S3], or Xanax [S4]). Participants were then asked to rate their level of agreement with statements about how they would respond to this patient in a clinical context. Next, they were asked to rate these four drugs, and alcohol, in terms of their safety and therapeutic/abuse potential. **Results:** As a function of which drug vignette was presented, there were significant differences in mean likelihood ratings of: warning the patient against engaging in drug use again ( $p < .01$ ,  $\eta^2 = .09$ ), being concerned about the patient developing a new psychiatric problem ( $p < .001$ ,  $\eta^2 = .12$ ), being concerned about increased suicide risk ( $p < .01$ ,  $\eta^2 = .07$ ), and being supportive of further use of this drug as part of the treatment plan ( $p < .001$ ,  $\eta^2 = .18$ ). Across each of these items, the non-prescribed use of Desoxyn (S2) and Xanax (S4) were rated as more concerning and less acceptable than the non-prescribed use of psilocybin (S1) and ketamine (S3), in conflict with current drug scheduling. Compared to psilocybin (S1) and ketamine (S3), participants rated Desoxyn (S2) and Xanax (S4) as less safe ( $p < .001$ ,  $d = .20$ ), having less therapeutic potential ( $p < .001$ ,  $d = .51$ ), and having more abuse potential ( $p < .001$ ,  $d = .56$ ). Interestingly, mean ratings of safety and abuse/therapeutic potential of Xanax (S4) and Desoxyn (S2) were equivalent to that of alcohol, a currently unscheduled legal drug, and all three were rated more harmful than psilocybin (S1) and ketamine (S3). **Conclusion:** Findings from this study demonstrate inconsistencies between psychiatrists' perceptions about the potential harms associated with certain psychoactive drugs and those implied by their current legal status. This data represents a critical first step in building consensus among psychiatrists towards advocating for a more coherent and scientifically grounded drug policy.

#### **No. 85**

##### **Emerging Social Determinants of Family Wellness**

*Poster Presenter: Andrew Michael Silvera, M.D.*

*Co-Authors: Cody Roi, D.O., M.P.H., Megan Maher, M.D., Andrew Michael Silvera, M.D.*

**SUMMARY:**

Social determinants of health are a major factor in influencing and interacting with mental health at the individual and family level and are an important component of the biopsychosocial model of case formulation. As research into this area expands there is an increasing number of factors being identified as determinants of mental health. And while practitioners gain an increased appreciation for these determinants, it is unclear if the patients and families we work with identify these external factors as important contributors to their own family and community's mental health outcomes. In this poster titled *Emerging Social Determinants of Family Wellness* we present preliminary results from a survey which explores caregiver attitudes towards five social factors potential impact. Caregivers of children seeking mental health services in both the inpatient and outpatient setting were surveyed. The social determinants explored included: United States immigration policies, gun violence (in the context of school shootings), climate change, social media and community acquired illnesses. In general caregivers were ambivalent about the impact of social factors on their community and families. Of the five factors, community acquired illness was rated as the highest concern for the impact on mental health in the family. Interestingly, across all questions and factors caregivers rated themselves highest in being prepared to talk to, or assist their children with, questions about each factor – this finding appears incongruent with our clinical observations in which caregivers are frequently expressing concern about how to talk to or address difficult issues with children. Lastly, this data was obtained just prior to the COVID-19 pandemic and the authors briefly discuss the potential shifts in attitudes towards social determinants and plans to conduct a follow up survey.

**No. 86****ECHO Supporting Police Reform Through Community Policing and Crisis Intervention Teams**

*Poster Presenter: Benjamin Melendrez*

**SUMMARY:**

When law enforcement officers encounter cases that involve mental illness, addiction, or both the officer

often requires follow-up with mental health providers. Although police interactions can be a major determinant of mental health within their community, communication between officers and providers can be difficult because the two groups do not always share the same goals or speak the same language. This workshop introduces participants to the CIT ECHO, a collaborative approach between providers and law enforcement that uses videoconferencing technology to provide case debriefings and mental health trainings. The Crisis Intervention Team (CIT) ECHO connects law enforcement agencies across New Mexico and the country with CIT experts and psychiatrists to provide continuing education on CIT best practices and review calls for service involving challenging behavioral health (i.e., mental illness and/or substance use disorder) cases. A team of psychiatrists paired with detectives from the Albuquerque Police Department's Crisis Intervention Unit host weekly CIT ECHO sessions. At the start of each session a brief didactic is given related to the mental health case to be. Didactic topics focus on the safety of persons living with mental illness and/or substance use disorder involved in the criminal justice system, de-stigmatization, and resources. The didactic curriculum was created using best practices in CIT policing techniques and focuses on seven areas: CIT policing, psychiatric diagnoses, de-escalation and communication skills, officer self-care, resources, substance use disorders, and specialized trainings. An ongoing evaluation of CIT ECHO has been conducted since inception of the project and data is collected regularly. Workshop attendees will participate in a live demonstration of a case debriefing with a team of psychiatrists and CIT detectives from the Albuquerque Police Department. As CIT ECHO has progressed over the years, our audience has expanded to various police departments country wide creating the opportunity to share resources and knowledge to benefit law enforcement in their work.

**No. 87****Does Fluvoxamine Protect Patients With Obsessive-Compulsive Disorder Against COVID-19?**

*Poster Presenter: Ailyn Diurka Diaz, M.D.*

*Co-Author: Raman Baweja*

**SUMMARY:**

**Background:** Fluvoxamine is an FDA approved medication for obsessive compulsive disorder (OCD) in children, adolescents, and adults. Recent research postulates fluvoxamine as a psychopharmacological agent, which prevents clinical deterioration in patients with pre-existing COVID-19 illness by stimulation of s-1 receptor, a cytokine production regulator.<sup>1</sup> Presently, there are no studies on fluvoxamine as a protective psychopharmacological agent against COVID-19 illness in patients diagnosed with OCD. In this case-control study, we compared the patients with OCD on fluvoxamine versus OCD patients without fluvoxamine against acquiring a COVID-19 diagnosis. **Methods:** The de-identified data used in this retrospective case-control study was collected on November 24, 2021 from the TriNetX COVID-19 Research Network, which provided access to electronic medical records from approximately 88 million patients from 66 healthcare organizations. The control group, OCD without fluvoxamine (N:428) was propensity matched 1:1 to the case group, OCD with fluvoxamine (N: 104). Propensity matching balanced the cohorts to N:104 for potential confounders based on race, ethnicity, and sex. Outcomes included SARS COVID-19 and related RNA presence in test or COVID-19 diagnosis based on ICD-10 criteria. The relative risk ratio for acquiring COVID-19 between the cohorts was calculated to determine the risk of acquiring illness between the cohorts. An odds ratio was calculated to determine the odds of exposure between the case and control groups. **Results:** Matched participants included ages 6-84, female (51%) to males (48%) with OCD with and without fluvoxamine (N:104) a year prior to the onset of the COVID-19 pandemic (March 11, 2020). Baseline comorbidities included mood disorders in OCD with fluvoxamine group (71%) compared to the OCD without fluvoxamine (58%). Baseline medications in the control group, included sertraline, (30%), fluoxetine (23%), trazodone (15%), escitalopram (18%) venlafaxine (7%) among other psychotropics. The relative risk ratio of acquiring COVID-19 between the OCD with fluvoxamine group and that of the OCD without fluvoxamine was 0.93. The odds ratio of exposure was 0.91 between the cohorts. **Conclusion:** Fluvoxamine could provide a mild protective effect against COVID-19 illness in patients

with pre-existing OCD. The study is limited by ascertainment bias from real-world diagnostic data. Moreover, the patients in the control group were on other psychotropics, including selective serotonin reuptake inhibitors and selective serotonin norepinephrine inhibitors, which could have provided some anti-inflammatory protection.<sup>2</sup> Overall, further studies are needed to evaluate fluvoxamine's protective and anti-viral properties in patients with OCD.

**No. 88****When the Queue Is Full: Workload as a Social Determinant of Psychiatry Faculty Well-Being**

*Poster Presenter: Vincent Corcoran, M.A.*

*Co-Authors: Shelby Adler, M.D., Carol Bernstein*

**SUMMARY:**

**Background:** Over the past several decades there has been increasing interest in the experience of burnout across professional occupations. Health professionals appear uniquely positioned to be at-risk for burnout given their role in patient care. Burnout has traditionally been conceptualized to consist of three domains: emotional exhaustion, depersonalization, and personal accomplishment. Burnout is of concern given its relationship to negative mental health outcomes such as depression, substance use and suicidal ideation. While there are no clinical cut-offs, a burnt-out professional will generally report higher scores on emotional exhaustion and depersonalization combined with lower scores on personal accomplishment. Research has suggested emotional exhaustion to be the core dimension of burnout, temporally preceding either depersonalization or personal accomplishment. **Methods:** The purpose of this study was to explore how faculty rank and workload within a university hospital setting may be related to the experience of emotional exhaustion. Psychiatry and psychology faculty (N = 81) within a department of psychiatry and behavioral sciences at a large metropolitan university hospital were surveyed using both the Maslach burnout inventory (MBI) and the Areas of Work-life survey (AWS). **Results:** Most of the faculty surveyed were white (62.3%, n = 43), and female (61.7%, n = 50). The most frequent reported age range of faculty was 31-



40 years old (40.7%,  $n = 33$ ), followed by 41-50 years old (21.0%,  $n = 17$ ). A one-way ANOVA analysis found significant mean differences on scores of emotional exhaustion,  $F(3, 80) = 2.95, p < .05$ . LSD post hoc comparisons revealed that those with a professor rank scored significantly lower on average ( $M = 7.75, SD = 4.92$ ) compared to assistant professors ( $M = 25.79, SD = 11.92$ ) or those with no faculty title ( $M = 24.96, SD = 12.08$ ). Given these observed mean differences, faculty rank was tested as a potential moderator of the relationship between workload and emotional exhaustion. No significant moderation was found,  $p = .76$ . However, conditional effects were found for non-faculty,  $\beta = -0.73, t(72) = -5.03, p < 0.01$ ; assistant professors,  $\beta = -0.66, t(72) = -6.30, p < 0.01$ ; and associate professors,  $\beta = -0.88, t(72) = -3.03, p < 0.01$ . Specifically, an increased ability to effectively manage workload was associated with decreased emotional exhaustion scores. **Conclusion:** These findings replicate past research that reported ability to successfully manage workload is related to the experience of emotional exhaustion. It also reveals that emotional exhaustion may not be experienced similarly in magnitude across faculty position ranks within large hospital systems. Future research should work to explore variables that may contribute to these observed differences in the experience of emotional exhaustion, particularly variables related to autonomy and control in relation to workload.

## No. 89

### **Thematic Analysis and Natural Language Processing of Job-Related Risk Factors for Physician Suicide in 2003–2018**

*Poster Presenter: Kristen Kim, M.D.*

*Co-Authors: Angela Haddad, Nicholas Kos, Gordon Ye, Judy E. Davidson*

#### **SUMMARY:**

**Background:** The problem of physician suicide has recently gained increased national attention as physicians experience heightened occupational stress during the COVID-19 pandemic. Previously and internationally, studies have found that both male and female physicians are at increased risk for suicide, while more recent reports suggest that only female physicians are at a higher risk for suicide

compared to their non-physician counterparts in the United States. Physicians are more likely than non-physicians to experience work-related stressors prior to suicide than others, but the specific nature of these stressors is unknown. The present study analyzed data from the United States Center for Disease Control (CDC) National Violent Death Reporting System (NVDRS) in attempt to contextualize the job-related risk factors for physician suicide. **Methods:** Cases of physician suicide in the 2003–2018 NVDRS dataset coded as having job-related problems were included. Inductive analyses of the medical examiner and law enforcement death narratives using thematic analysis and natural language processing (NLP) approaches were conducted to determine representative themes. **Results:** The study included 206 cases of physician suicide with known job-related problems prior to death. The themes determined through thematic analysis were as follows: incapacity to work due to deterioration of physical health, substance use jeopardizing employment, interaction between work-related issues and mental health, relationship conflict affecting work, legal problems leading to work-related stress, and increased financial stress. Preliminary NLP analysis identified themes congruent with those determined through thematic analysis and elucidated important subthemes, e.g., forced retirement under incapacity to work due to deterioration of physical health and malpractice and civil litigation under legal problems. **Conclusion:** This is the first study that utilized an integrated approach combining thematic analysis and NLP to better characterize work-related stressors preceding physician suicide. The results highlight the importance of bolstering systemic support for physicians undergoing job problems associated with their physical and mental health, substance use, relationships, litigation, and finances in order to enhance suicide prevention efforts. A formal deductive analysis of the narratives using previously established job-related problems contributing to suicide in nursing may also be fruitful for integrated suicide prevention action-planning across disciplines.

## No. 90

### Virtual Wellness Interventions at an Academic Medical Center: Experience, Feasibility and Outcome

Poster Presenter: Ritika Baweja, M.D.

Co-Authors: Michael Hayes, Aditya Joshi, M.D., Raman Baweja

#### SUMMARY:

**Abstract Background:** There is generally a higher likelihood of burn out in healthcare workers with research showing female physicians experiencing more as compared to male physicians<sup>1</sup>. Given the potential impact of the COVID-19 pandemic on healthcare providers<sup>2</sup>, our institution identified the need for wellness interventions for the faculty to foster adaptive functioning and to help mitigate burnout. Wellness activities like meditation<sup>3</sup>, art therapy<sup>4</sup>, laughter therapy (hasya yoga)<sup>5</sup>, dance therapy, and yoga are evidence-based interventions for stress reduction. The purpose of this pilot project was to assess the feasibility of virtual holistic interventions, such as these, and their impact on overall well-being of physicians and advanced practice providers (APP) at our academic medical center in central Pennsylvania. **Method:** A series of 12 virtual sessions were offered to the faculty (physicians and APP) over a 6-month period. Wellness interventions ranged from art therapy (6 sessions), dance therapy (2 sessions), mindfulness based practices/meditation (2 sessions) and laughter therapy (2 sessions), focusing on almost all dimensions of overall wellness. These sessions followed an open group format. Participants were asked to complete an online survey after each session. Survey completion was voluntary and responses were collected anonymously. Data obtained were analyzed using mixed methods. **Results:** A total of 72 participants attended the sessions (mean: 6, range 2-12) and 40% (29) completed the post-session surveys. Respondents were white (62%), female (96%), physicians (69% versus advance practice practitioners 31%), representing both specialty services (66%) and primary care (34%). Forty-one percent of the participants were above the age of 60. Around 93% reported statically significant reduction in their stress level following the interventions (pre mean score: 6.3 versus post mean score 2.4,  $p < .0001$  and

Cohen's  $d = 1.6$ ). Most of participants were appreciative of the program and the instructors (18 comments). They reported the sessions to be helpful in stress reduction and feeling relaxed after the sessions (11 comments), improve ability to focus (8 comments), activity was enjoyable (7 comments) and others (feeling sense of accomplishment and connectedness). Participants also provided feedback to improve the organization of sessions, as well as inclusion of in-person sessions. Some participants indicated struggling with the use of technology during the sessions. **Conclusion:** This virtual pilot program was well received by the faculty of an academic center and demonstrated significant impact on immediate stress reduction. These preliminary data are encouraging and point toward the feasibility of such holistic approaches in facilitating overall well-being. There is a need for larger multi-centered comparative studies to evaluate the impact of different well-being activities, as well as how to improve engagement in wellbeing activities.

## No. 91

### Effects of Information Pamphlet on Quality of Inpatient Admission

Poster Presenter: Syed Jafri

#### SUMMARY:

**Introduction:** This project was conducted in a 52 bed inpatient psychiatry facility in a rural hospital system. In this facility patients are admitted for acute psychiatric pathologies from emergency department from an affiliate hospital. It has been noted that after arrival to psychiatric facility from the emergency department patient expressed frustration with the restrictions that they were not informed about. These restrictions include being in a locked unit, no smoking and having no family visits and no access to cell phones. Some patients also came on an involuntary legal hold and were provided conflicting information regarding the legal details in the emergency department. This caused patient dissatisfaction and frustration and was the cause of conflict with the staff and treatment team members. The conflict will sometimes lead to patients' agitation and behavioral codes requiring chemical or physical restraints. This was not

conducive to therapeutic alliance and resulted in sub-optimal clinical care. **Methods:** Residents decided to create an information pamphlet that included information regarding the limitations and restrictions of the psychiatric facility, the pamphlet also had legal details regarding involuntary hold. It was written in language that could be understood by individual with 7th grade education. Behavioral health care workers who assessed patient in the emergency department were instructed to hand out pamphlets to the patients prior to their arrival to the psychiatric facility. We asked patients and staff members to fill out qualitative satisfaction surveys about patients' stay. **Results:** Overall, there was general consensus between nursing, treatment team and patient that providing information regarding the restrictions on the psychiatric unit and legal details of the involuntary hold resulted in less conflict between patients and treatment team members and generally improved therapeutic alliance. During the presentation we will present the information pamphlet, statistical breakdown of surveys filled out by nursing and patients and the improvement in therapeutic outcome. We will also present what improvements can be made in implementing this project including vocabulary of 5<sup>th</sup> graders, translating in different languages (including Spanish) and monitoring incidents of behavioral codes on the unit after handing out the informational pamphlet.

## No. 92

### **The Effect of Simulated Auditory Hallucinations on Medical Students' Empathy, Attitude, and Knowledge Regarding Patients With Hallucinations**

*Poster Presenter: Blair Nicole Baumle*

*Lead Author: Jamie Dowling*

*Co-Author: Mallory Vild*

#### **SUMMARY:**

**Objective** The aim of this study was to determine medical student levels of empathy and understanding towards patients who experience auditory hallucinations after a simulated experience where medical students performed tasks while listening to a recording of voices and command hallucinations. **Methods** Medical Students in their third and fourth year of medical school at the University of Toledo participated in this auditory

hallucination simulation as a part of the Psychiatry clerkship. A survey was provided prior to the experience to determine the baseline demographics, attitudes and empathy regarding people who live with auditory hallucinations. The medical students then underwent a 30 minute simulation, where they performed everyday tasks while listening to auditory hallucinations with headphones. The stations were designed to exemplify the difficulty of performing daily tasks while burdened with auditory hallucinations, including challenges associated with critical thinking, spatial reasoning, communication, memory, and concentration. Once the experience was complete, the students answered the same survey questions to determine any change in their perspective. Results All processing and analysis steps were conducted in SPSS v27. The pre-group(n=171) and post-group(n=167) were not matched to preserve student anonymity. There was a strong indication of student empathy based on the pre-test scores (mean=48.45 SD=.69), especially from female students. However, there was still a statistically significant increase in self-perceived empathy determined by comparison to post-test scores (mean=52.43 SD=.61) by both genders (p <0.001). Every question in the survey showed a statistically significant increase with non-parametric comparisons of the means between pre and post (Q1 at p<0.014 and Q2-Q11 at P<0.001). Additionally, female student respondents reported significantly higher levels of empathy and empathy increase in both pre-and post-test scoring. During simulation debriefing and post-survey comment, qualitative feedback validates that learners not only self-reported empathy and understanding, but those who have previous experience with these patient encounters also confirms the simulation immersion to the realism of patient behavior. Conclusion While medical students reported having feelings of empathy prior to completing the simulation, post-test scores indicate further increased levels of empathy related to individuals experiencing hallucinations. Broken down into self-identified gender, females reported higher levels of empathy than males. Overall, though students reported feeling empathy towards individuals with hallucinations before the simulation, participation in the activity proved to increase overall empathy across specialties and gender.

### No. 93

#### **Expanding Access to Behavioral Health Care Through Training of Internal Medicine Residents Using the Project ECHO Model.**

*Poster Presenter: Aditya Joshi, M.D.*

*Co-Authors: Aum Pathare, M.D., Eliana Hempel, M.D., Paul Haidet, M.D.*

#### **SUMMARY:**

**Background:** Nearly 1 in 5 adults in the United States is affected by mental illness [1]. Depression is now a leading cause of disability worldwide [2]. However, specialty access to mental health services is likely to be adversely impacted in the future given the projected decline in the number of psychiatrists, further compounding the existing shortage of mental health providers [3]. Providers in other specialties like primary care are often called upon to address their patient's mental health needs [4], but may feel unprepared to manage them [4]. This poses a unique challenge to the healthcare system as under recognition of mental health illness may lead to poor clinical outcomes for all medical conditions [4]. Project ECHO, a telementoring model, has been successfully used to bring specialty care to underserved populations by expanding system capacity [5]. We explored the feasibility of this model in a Graduate Medical Education (GME) setting. **Methods:** We established a mental health ECHO series for GME trainees at our institution's Internal Medicine residency program. Sessions included a brief didactic component, as well as clinical case discussion facilitated by mental health experts at our academic medical center. For this pilot series residents were divided into four groups with each group attending two sessions. End of program surveys were utilized to obtain quantitative as well as qualitative data. **Results:** A total of 57 residents participated in the program of which 17 (30%) returned online surveys. Respondents indicated positive change in their knowledge and clinical skills (Wilcoxon signed rank test <0.001), as well as their confidence levels (Wilcoxon signed rank test 0.004) pertaining to the management of patients with mental health related issues after participating in this program. Eighty Eight percent of participants rated both the quality of didactics

(n=15), and case discussion (n=15) as high or very high. Almost three fourths (76%, n=13) agreed or strongly agreed that they were able to apply acquired knowledge to patients under their care, felt that project ECHO was a valuable educational tool and that they would recommend our institution's program to a colleague. Nearly two thirds of participants (65%, n=11) agreed or strongly agreed that they learnt from colleagues who presented cases during these sessions. Through their comments, participants acknowledged learning through case discussion with specialists, appreciated being able to engage virtually from various locations, and expressed a desire for more sessions.

**Conclusion:** This pilot program demonstrates the feasibility of this model in expanding delivery of mental health care through training of non-psychiatric providers at the GME level. The program will be continued through the course of residency training to allow for continuing mental health education.

### No. 94

#### **Suicide Methods Among Adults With Schizophrenia Across the Life Span**

*Poster Presenter: Natalie Bareis, Ph.D., L.M.S.W., M.S.*

*Co-Author: T. Scott Stroup, M.D., M.P.H.*

#### **SUMMARY:**

**Importance:** Adults with schizophrenia have an increased risk of suicide but unlike the general population the highest risk is among younger adults. It is unknown if methods of suicide among adults with schizophrenia are different from the general population or if they vary across the life span.

**Objective:** To describe suicide methods, standardized mortality ratios, and correlates among adults with schizophrenia across the life span.

**Design, Setting, and Participants:** The National Death Index was used to characterize methods of suicide among adults aged 18+ years diagnosed with schizophrenia in the Medicare program among those who died from January 1, 2007, to December 31, 2016. The total cohort included 668 836 Medicare patients with schizophrenia and 2218 suicide deaths. Data were analyzed from June 1 to August 15, 2021. To examine variations across the life span, suicide

deaths were categorized by age at death: 18-34, 35-44, 45-54, 55+ years. **Main Outcomes and Measures:** For the total sample and each age group, mortality rates per 100,000 person-years were estimated by sex. Adjusted odds ratios (aOR) for the most common suicide methods were calculated. Standardized mortality ratios (SMRs) for suicide methods were estimated for the total cohort and each age group stratified by sex and standardized to the general population by age, sex, and race/ethnicity. **Results:** The study population of adults included 668 836 Medicare recipients with schizophrenia (52% men, 48% women) and 1444 suicides by men and 774 by women. Among men the most common methods of suicide were poisoning (n=384, 27%), firearms (n=368, 26%), hanging (n=350, 24%), and jumping (n=173, 12%). Among women the most common methods were poisoning (n=433, 56%), firearms (n=107, 14%), hanging (n=85, 11%) and jumping (n=73, 9%). Female sex was the variable most associated with poisoning (aOR 3.31 95% CI: 2.71-4.03). Female sex (aOR 0.46, CI 0.36-0.59) and Hispanic race/ethnicity (compared to White) (aOR 0.30, CI 0.16-0.55) were associated with lower risk for suicide by firearm. For hanging, female sex (0.43, CI 0.33-0.56) was associated with lower risk while Hispanic race/ethnicity (1.59, CI 1.07-2.37) was associated with increased risk. With increased age poisoning became more common while hanging became less common. The rate of suicide by poisoning per 100,000 person-years in this sample was 10 times that of the general population. In comparison, the rate of suicide by firearm was only 2 times that in the general population. **Conclusion and Relevance:** The pattern of suicide methods is different for people diagnosed with schizophrenia compared to the overall population. While firearms account for more than half of all suicides in the U.S., poisoning is the most common method among both men and women diagnosed with schizophrenia. These results suggest that suicide prevention efforts for people diagnosed with schizophrenia must consider the high risk of suicide by several methods.

No. 95

**Social Determinants of Suicide in America: An Ecological Study of Religion, 1999–2019**

*Poster Presenter: Felicia Lee*

*Co-Authors: Samantha Ibarra To, Theodore Malmstrom, Quratulanne Sheheryar, Erick Messias*

**SUMMARY:**

Background: Suicide is one of the leading causes of death in the U.S, and multiple risk factors have been described including religious background. Studies suggest that religious affiliation and attendance are protective against suicide attempt but not ideation, especially among individuals affiliated with the majority religion. In the past two decades, there has been a steady rise in the suicide rate of the U.S. total population and a decline in the number of American adults who report that religion is “very important.” There are very few studies examining how recent religious trends in the U.S. may relate to suicide rate over time in the total population. **Objective:** To investigate the correlation between suicide rate in the U.S. total population and national trends measuring religious importance, attendance, affiliation, and trust in the church or organized religion. **Method:** We conducted an ecological analysis of trends using publicly available data from the CDC; the Pew Research Center; and Gallup Poll Social Series which interviews at least 1,000 adults 18 years and older and demographically weighs its final sample to match the U.S. population. The major outcome of interest was suicide rate in the U.S. total population from 1999-2019; the exposure of interest was survey responses related to religion. **Result:** Suicide rate in the U.S. total population has steadily increased from 10.5 per 100,000 in 1999 to 13.9 in 2019 (n=792,871). In this period, there has been a decline in the number of American adults who trust the church or organized religion and report religion as being “very important.” More adults also report never having attended church or synagogue, and those who self-identify as religiously “unaffiliated” has increased from 17% in 2009 to 26% in 2019. In our analysis of ecological level regressions, we found that trust in organized religion is significantly associated with the total suicide rate ( $R^2=0.67$ ; F-value=38.44,  $p<0.001$ ). Furthermore, high religious importance ( $R^2=0.81$ ; F-value=78.48,  $p<0.001$ ) and never having attended church or synagogue ( $R^2=0.81$ ; F-value=80.52,  $p<0.001$ ) are also significantly associated with the total suicide rate. We found the strongest correlation between no religious affiliation and suicide rate from 2009-2019

( $R^2=.957$ ;  $F\text{-value}=199.522$ ,  $p<0.001$ ). **Discussion:** In an ecological analysis of trends between 1999 and 2019, we found that religious non-affiliation and never having attended church or synagogue are positively associated with suicide rate in the U.S, while a self-report of high importance of religion in life is negatively associated with suicide rate. An important limitation of ecological studies is the possibility of ecological fallacy so casual relationships cannot be ascertained. Further studies looking at religious non-affiliation and suicide risk are recommended, especially with regard to the moderation effects of gender and generational differences.

#### **No. 96**

##### **The Effects of Psychedelic Therapy on Suicidality: A Meta-Analysis of Individual Patient Data Across Clinical Trials**

*Poster Presenter: Nikhita Alisha Singhal, M.D.*

*Co-Authors: Cory Ross Weissman, M.D., Dengdeng Yu, Richard Zeifman, Guan Wang*

#### **SUMMARY:**

Over 800 000 individuals complete suicide annually. The vast majority of these individuals suffer from an underlying psychiatric illness. Treatments to prevent suicide are limited, so innovative interventions that target suicidality are desperately needed. While psychedelic therapy shows promise as a treatment for a range of mental health concerns, including suicidality, not all psychedelic therapy trials have published their suicidality results, and no meta-analysis has been conducted on the topic. We therefore completed a systematic search of MEDLINE, PsycINFO, and PubMed for all psychedelic therapy clinical trials (search last updated: November 5, 2020). We identified all psychedelic therapy trials that included a measure or measure-item that assesses suicidality. Suicidality data were requested from all relevant study authors and extracted using a data extraction form developed for this study. We identified eight, and successfully collected data from seven, relevant trials. Analysis of standardized mean differences (SMD) indicated that relative to baseline, psychedelic therapy was associated with large effect sizes for acute (80-240 min) and post-acute decreases in suicidality at 1 day,

1-8 weeks, and 3-4 months' time ranges (SMD range = -1.48 – -2.36, 95% CI range = 0.23 to -4.30). At 6 months, the effect size was medium (SMD=-0.65, 95% CI -0.16 to -1.14). Reductions in suicidality were significant at all time points, except for the 7-8 weeks' time range. Acute and post-acute elevations in suicidality were rare (6.5% and 3.0%, respectively). Limitations of our analysis include heterogeneous samples and interventions, as well as the limited sample size and number of studies. These results provide preliminary support for the safety of psychedelic therapy and its positive effect on suicidality. Controlled trials that specifically evaluate the effect of psychedelic therapy on suicidality are warranted.

#### **No. 97**

##### **Impact of U.S. Regions on Risk Factors for Suicidal Ideation and Suicide Attempt Among Commercially Insured Youth With an Outpatient Psychiatric Visit**

*Poster Presenter: Wenna Xi, Ph.D.*

*Co-Authors: Samprit Banerjee, Ph.D., George S. Alexopoulos, M.D., Jyotishman Pathak*

#### **SUMMARY:**

**Background:** To study the variations of effects of risk factors for suicidal ideation (SI) and suicide attempt (SA) by geographic regions among commercially insured youth and young adults in the US. **Methods:** We conducted a retrospective cohort study using health insurance claims data from four major insurance companies in the US. The index event was defined as patients aged <25 with a mental health (MH) or substance use disorder related outpatient visit between 2014-2015. Risk factors for SI and SA included long-, mid-, and short-term histories of MH-related diagnoses, medications, and utilization of services identified by Simon et al., and demographic variables available in the data set. Patients' geographic regions were assigned to one of the nine divisions defined by the US Census Bureau: East North Central, East South Central, Mid-Atlantic, Mountain, New England, Pacific, South Atlantic, West North Central, and West South Central. Survival analysis was used to evaluate the geographic variation of effects of risk factors for SI and SA. Patients were censored if they did not have an SI or SA diagnosis before 9/30/2015 (ICD-9 to ICD-

10 switch date) or the last day of the insurance plan enrollment, whichever came first. Results: We identified 124,424 patients in the cohort. The Mountain region had the highest post 7-, 30-, 90-, 180-, and 365-day rates for both SI and SA (5.44%, 6.70%, 8.09%, 9.18%, and 10.26%, for SI, respectively, and 0.70%, 1.16%, 1.76%, 2.26%, and 2.82% for SA, respectively). Cox proportional hazards models showed significant geographic variations on the effects of risk factors for SI ( $p < 0.001$ ), but not for SA ( $p = 0.73$ ). However, the main effects of geographic regions were still significant for SA ( $p < 0.001$ ). For SI, geographic regions interacted with eating disorder diagnosis in the past 3 years, anxiety disorder diagnosis in the past 3 years, and MH emergency department (ED) visits in the past year. Risk of SA was lower in New England, Mid-Atlantic, South Atlantic, and Pacific (HRs=0.57, 0.51, 0.67, and 0.79, respectively) and higher in the Mountain region (HR=1.46), after controlling for clinical and demographic risk factors. Discussion: Among commercially insured youth in the US, residents of the Mountain region had the highest prevalences of both SI and SA. Geographic regions modified the effects of eating disorder diagnosis in the past 3 years, anxiety disorder diagnosis in the past 3 years, and MH ED visits in the past year for SI, and contributed as main effects for SA; risk of SA was lower on the two coastlines and higher in the Mountain region.

#### **No. 98**

#### **Insecure Attachment Styles in Parental Relationships in Adulthood as Predictors of Suicidal Behaviors**

*Poster Presenter: Jillian K. Thomas*

*Co-Author: Julia Myerson*

#### **SUMMARY:**

Suicide is the fourth leading cause of death in adults between the ages of 18 and 54 in the United States (CDC, 2019). Several studies have used attachment theory as a baseline concept in detecting a link between attachment and suicidal behaviors (Palitsky et al., 2013; Miniati et al., 2017). Preoccupied and fearful attachment styles have been linked to suicidal behaviors in adults (Gormley & McNiel, 2009; Ciocca et al., 2020). The current study

examined the relationship between insecure attachment and suicidal behaviors in adults. Participants included 1,000 adults admitted to an inpatient psychiatric hospital. The sample was evenly split by sex, with 54.1% ( $n=541$ ) males. Attachment was evaluated using the Relationship Structures Questionnaire. Suicide risk was assessed using the Suicide Behaviors Questionnaire- Revised. Suicide related behaviors (attempts and nonsuicidal self-injury [NSSI]) were measured using the Self-Injurious Thoughts and Behaviors Interview. Chi Square tests were utilized to compare attachment style to NSSI. Results of an omnibus test revealed a significant association between, both, maternal [ $\chi^2(3)=15.09$ ;  $p=.002$ ] and paternal [ $\chi^2(3)=13.42$ ;  $p=.004$ ] attachment and a history of NSSI. Follow up analyses utilizing a Bonferroni correction revealed significant individual chi-square tests for maternal secure attachment and NSSI [ $\chi^2(1)=14.90$ ;  $p < .001$ ] and maternal dismissive attachment and NSSI [ $\chi^2(1)=5.43$ ;  $p=.020$ ]. Patients who endorsed NSSI were less likely to have secure attachment and more likely to have dismissive attachment to their mothers. Additionally, follow up analyses utilizing a Bonferroni correction revealed significant individual chi-square tests for paternal secure attachment and NSSI [ $\chi^2(1)=8.76$ ;  $p < .001$ ] and paternal fearful attachment and NSSI [ $\chi^2(1)=9.80$ ;  $p < .001$ ]. Patients who endorsed NSSI were less likely to have secure attachment to their fathers and more likely to have fearful attachment to their fathers. Similarly, results of an omnibus test revealed a significant association between paternal attachment and a history of suicide attempts [ $\chi^2(3)=17.75$ ;  $p < .001$ ]. Follow up analyses utilizing a Bonferroni correction revealed significant individual chi-square tests for paternal secure attachment and attempts [ $\chi^2(1)=12.39$ ;  $p < .001$ ] and paternal fearful attachment and attempts [ $\chi^2(1)=11.09$ ;  $p=.001$ ]. Patients who endorsed a previous suicide attempt were less likely to have secure attachment and more likely to have fearful attachment to their fathers. Finally, results revealed no association between maternal attachment and a history of suicide attempts [ $\chi^2(3)=4.18$ ;  $p=.243$ ]. Overall, these results emphasize that adult patients with insecure attachment styles are at a greater risk for suicide and NSSI than adults with secure attachment. Future research should further ours and examine the

relationship between insecure attachment and various other psychopathological areas (i.e., depression, anxiety).

**No. 99**

**Repeated Sub-Anesthetic Doses of Intravenous Ketamine to Enhance Prolonged Exposure Therapy Among Veterans With Posttraumatic Stress Disorder**

*Poster Presenter: Eliza McManus*

*Lead Author: Paulo Shiroma*

*Co-Author: Emily Voller*

**SUMMARY:**

**Background:** Prolonged exposure (PE) is one of evidence-based trauma psychotherapy options for Veterans with PTSD; however, the clinical trials in the military and veteran populations showed that up to 50% of participants failed to attain clinically meaningful symptoms improvement. Research indicates that PE efficacy could be enhanced with the use of concurrent medications. Here, we present pilot data on the feasibility of adding subanesthetic intravenous ketamine to PE in PTSD. **Methods:** In a 10-week pilot conducted between April and June 2019 at the Minneapolis VA Medical center, veterans aged 18-75 years with chronic (>6 months) and at least moderate PTSD (CAPS-5>22 and PCL-5>33) received IV ketamine at 0.5 mg/kg 24 hr. prior to weekly PE session for the first 3 weeks followed by up to 7 additional PE session. PE was delivered by nationally certified PE therapists. We excluded subjects with AUD or SUD in the last 6 months, moderate/severe TBI, bipolar disorder or psychotic spectrum. CAPS-5 score change from baseline to week 10 was the primary outcome. Secondary outcomes include depression (MADRS), PCL-5, and clinical global impression-Severity of Illness scale. **Results:** In a 4-month period, 10 out of 12 consented subjects completed treatment infusions with at least one follow-up with PCL-5 (N=10) or CAPS-5 (N=9) assessment. Scores significantly decreased from baseline to end of treatment in CAPS-5, PCL-5 and MADRS. After controlling for mean change in MADRS score over time, changes in both total PCL-5 scores and PCL-5 avoidance cluster remained significant. PCL-5 score in intrusion, arousal and negative mood and cognition subcluster as well as total CAPS-5 were

no longer significant. **Conclusion:** In this proof-of-concept study, we demonstrated the feasibility to add repeated IV ketamine to standardized PE for PTSD in Veterans. A randomized, double blinded, placebo controlled trial (ClinicalTrials.gov Identifier: NCT04560660) is currently conducted to demonstrate whether this intervention enhances the efficacy of PE in PTSD. This work was supported by the United States Department of Veterans Affairs Clinical Science Research and Development Merit Review Award (I01 CX001191) granted to Dr. Shiroma.

**No. 100**

**Post-Stress Glucose Treatment Enhances Performance on Hippocampal-Dependent Tasks in Both Humans and Rodents**

*Poster Presenter: Nancy J. Smith, M.A.*

**SUMMARY:**

A third of the US population will experience a traumatic event at some point in their life. Posttraumatic stress disorder (PTSD) is a severely debilitating mental disorder affecting up to 20% of that population. It is well established that increased serum levels of glucocorticoids following significant stress impair hippocampal glucose uptake and function, including contextual processing. Without proper hippocampal activity, contextual memory of trauma may not be properly encoded. This deficit in encoding may subsequently contribute to generalization of fear and intrusive memories, hallmark diagnostic criteria for PTSD. We have previously shown, in rats, consumption of glucose within a critical 3-hour window following a significant stressor rescues deficits caused by the stress. The present study provides evidence, in human trauma patients, that post-stress glucose consumption within a 3-hour window of the traumatic event similarly protects hippocampal function. Two main results from this experiment show: (1) glucose following stress benefitted the performance on a hippocampus-dependent task but not a hippocampus-independent task 3-hours, 5-7 days, and 60 days after trauma and (2) the post-stress glucose group recalled significantly more details of the trauma than the placebo group. Because research on the mechanism(s) by which



glucose deficits lead to impaired hippocampal function is presently scarce, we next followed up on our human data by probing performance on a hippocampal-dependent task in rats, using the Object in Place (OIP) task. Both male and female rats were first exposed to either 100 inescapable tail shocks or simple restraint. Animals were then given 24-hour ad libitum access to glucose or a non-caloric sweetener (stevia) before OIP acquisition and test phases, which were separated by a 2-h delay. The post-stress glucose group spent significantly more time investigating the objects in different locations compared to the objects in the same locations. Thus, we have begun to characterize a rodent model to further study the underlying mechanism(s) mediating a potential prophylactic effect of glucose on PTSD/PTSD-like symptom development.

#### No. 101

##### **Associations Between Somatic Symptoms and Depression Severity Across the Perinatal Period in Women With Major Depressive Disorder**

*Poster Presenter: Chloe Gabrielle Sharp, M.D.*

*Co-Authors: Janine Molino, Ph.D., Jane Hesser, I.I.C.S.W., M.F.A., M.S.W., Teri Pearlstein, M.D., Katherine M. Sharkey, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Somatic symptoms are common in both depression and pregnancy. Nevertheless, few studies have characterized bodily symptoms among perinatal women with depression, such that physical symptoms associated with depressed mood may be misattributed to pregnancy or recent childbirth.

**Methods:** This is a secondary analysis of data from a randomized clinical trial (NCT02053649) in which 44 pregnant women (mean age 31.0 years) who met criteria for major depressive disorder were enrolled at 28-30 weeks' gestation and randomized to treatment as usual (TAU) or TAU+chronotherapy. We measured somatic symptoms with the Systematic Assessment for Treatment Emergent Effects (SAFTEE) questionnaire which assesses presence and severity of 95 symptoms (possible score range = 0-380). Depression was measured with the Hamilton Depression Rating Scale (HAM-D-17) administered by a psychiatrist blinded to treatment group. Participants were assessed at enrollment and

at 4 follow up visits (33 and 36 weeks of pregnancy and 2 and 6 weeks postpartum). We used generalized estimating equations to examine the associations between depression severity and symptoms reported on the SAFTEE. **Results:** There were no differences in SAFTEE scores between the treatment groups at any time point; further analyses were therefore performed on the full sample. As shown in the table, somatic and depressive symptoms decreased significantly from pregnancy to postpartum. The most common pregnancy symptoms were shortness of breath; heartburn; frequent urination; and pains in muscles/bones. The most common postpartum symptoms were headaches; breast tenderness, pain and discharge; stomach and abdominal discomfort; and increased thirst. Higher total SAFTEE scores were associated with higher HAM-D scores at all 5 study visits (t(142)=2.55, p=0.01 baseline, t(142)=4.18, p<0.0001 at 33 weeks, t(142)=3.70, p=0.0003 at 36 weeks, t(142)=2.97, p=0.004 at 2 weeks pp, and t(142)=3.97, p=0.0001 at 6 weeks pp. <tbody> Average # of somatic symptoms (SD) Mean SAFTEE Score (SD) Mean HAM-D Score (SD) Baseline 5.98 (7.17) 49.34 (26.65) 13.16 (3.75) 33 weeks 4.72 (5.80) 44.63 (23.51) 11.69 (5.11) 36 weeks 3.89 (5.74) 41.83 (23.07) 10.28 (4.20) 2 weeks postpartum 2.61 (2.74) 31.16 (14.02) 7.36 (3.65) 6 weeks postpartum 1.54 (2.01) 25.05 (16.91) 7.28 (3.57) </tbody>

**Conclusions:** In our sample of peripartum women with depression, somatic symptoms were more common during pregnancy than the postpartum period. Somatic symptoms were significantly associated with depression severity at all time points, with the strongest associations observed in the postpartum period. Our data indicate that somatic symptoms reported by expectant and new mothers that may be misattributed to pregnancy or recent childbirth may aid in detecting depression in a high risk and often underdiagnosed population.

**Funding:** MH104377, U54GM115677

#### No. 102

##### **New Parents' Daily Activities and Their Mental and Physical Health: Findings From a Swedish Longitudinal Study**

*Poster Presenter: Lucy R. Zheng, Ph.D.*

*Co-Authors: Petrus Olander, Elias Markstedt, Elin Naurin*

**SUMMARY:**

What kinds of daily activities are associated with better perceptions of health in new mothers and fathers? Adapting to life with a new child in the household may cause changes to one's physiology and psychology. Midwifery research often links sleep, physical activity, and social support to self-perceived health in the woman, but scholars rarely follow the couple jointly to track activities and physical and mental health in both. To this end, we aim to study the following: Are there daily activities two months after birth that are positively or negatively associated with physical and mental health a year after birth? In addition, are there differences in the links between activities and health for the mother and the father, or for first-time parents and non-first-time parents? We use data from the Swedish Pregnancy Panel, a longitudinal survey study of women and partners from pregnancy through early parenthood. This study used data from women (N=1,585) and male partners (N=949) two months after birth and one year after birth. Independent variables were time spent on seven daily activities two months after birth: exercising/going to the gym, spent time with friends, prayed to God, spent time just for myself, slept well through the night, read a newspaper or news tabloid on the internet, and listened to the news on the radio/podcast/tv. Dependent variables were self-described physical health and mental health statuses one year after birth. Control variables were the mental and physical health variables two months after birth and the other health variable one year after birth. Significance levels for the regressions were set at  $p < .05$ . We find important associations of daily activities two months after birth with health of first-time fathers, non-first-time mothers, and non-first-time fathers one year after birth. For first-time fathers, reading a newspaper or tabloid was associated with better mental health, whereas spending time just for himself was associated with worse mental health. In non-first-time mothers, reading a newspaper or tabloid was associated with better mental health one year after birth, while spending time with friends was associated with better physical health a year after birth. Lastly, for non-first-time fathers, exercising or going to the gym was negatively associated with mental health. We

did not find any association of daily activities two months after birth with first-time mothers' mental or physical health. Overall, these findings suggest that staying up-to-date with news and being social two months after birth may be positive indicators for self-perceived health one year after birth, while spending time for self or exercising may be negative indicators. More studies of new mothers and fathers in different cultural and geographic contexts are needed to investigate these associations, as well as the lack of associations between activities and health for first-time mothers.

**No. 103****Epigenetic Variations in Those With Postoperative Delirium: A Genome-Wide DNA Methylation Study of Neurosurgical Patients**

*Poster Presenter: Nadiyah Wahba, B.S.*

*Co-Authors: Gen Shinozaki, M.D., Takehiko Yamanashi, Pedro Marra, Kaitlyn Crutchley*

**SUMMARY:**

**Introduction:** Delirium is a highly prevalent condition associated with poor prognostic outcomes, including accelerated cognitive decline and increased mortality. Concern for delirium is a major prompt for psychiatric consultations in hospitalized patients, with post-operative individuals being particularly vulnerable. Although prevention, early detection, and effective treatment for delirium are important, no reliable biomarker is available to differentiate those with and without delirium. Our previous epigenetic studies have revealed altered DNA methylation (DNAm) with aging, as well as epigenetic variation between patients with and without delirium, especially in genes associated with inflammatory pathways. The current study aims to provide further evidence for DNAm differences associated with delirium, specifically in patients with delirium of post-surgical origin, as well as investigate whether these variations were predictive of developing post-operative delirium (POD) or reflective of a clinically delirious state. **Methods:** 37 patients scheduled to undergo focal neurosurgical resections for treatment-resistant epilepsy were recruited. Blood samples were obtained both before and after surgery, with subsequent DNA extraction and differential DNAm analyses completed using the

genome-wide EPIC array. DNAm data was compared at 20 CpG sites previously found to be most significantly different in hospitalized patients with and without delirium. Gene Ontology (GO) and the Kyoto Encyclopedia of Genes and Genomes (KEGG) were used to further investigate differences in associated pathways between delirium cases and controls. **Results:** No significant DNAm differences were seen prior to surgery between POD group (n=10) and non-POD group (n=27). On the other hand, 11 of 20 CpG sites showed difference with nominal significance in post-surgical DNAm values between POD group and non-POD group in the same directions as found in our previous cohort. Additionally, GO and KEGG analyses revealed several pathways associated with inflammation or immune response differing in POD patients compared to non-POD controls. **Discussion:** These findings provide evidence of consistent differences associated with the clinical state of delirium, in two independent cohorts with differing origins of delirium. Further, the present study suggests that DNAm is exceptionally sensitive and potentially predictive of clinical state, but not of the risk to develop delirium prior to surgery. Additionally, these findings offer further support that altered genomic activity at inflammatory pathways are associated with the development of delirium.

**No. 104**  
**WITHDRAWN**

**No. 105**  
**Pharmacogenomics of SSRI and SNRI**  
**Antidepressant Response in a Population-Based Cohort**

*Poster Presenter: Jorge Andres Sánchez Ruiz, M.D.*  
*Co-Authors: Nicole Leibman, Nicholas B. Larson, Ph.D., M.S., Aysegul Ozerdem, M.D., Ph.D.*

**SUMMARY:**

Introduction Women have twice the risk of depression<sup>1</sup>, for which they are prescribed antidepressants (ADs) at double the rate of men<sup>2</sup>. Further, over the last decade, antidepressant (AD) use among US adults has increased; for women, past-month AD use saw a significant increase (13.8% to 18.6%), but not men (7.1% to 8.7%)<sup>3</sup>.

Pharmacogenomic testing of the serotonin transporter cytochrome pharmacokinetic variation has emerged as a possible decision support tool, individualizing treatment selection for more than 20 FDA approved treatments for major depressive disorder<sup>4</sup>. The aim of this study was to examine, in a population-based cohort, the gender differences in AD use, the relationship between genetic variation of a wide range of pharmacokinetic (PK) and pharmacodynamic (PD) genes, and treatment response using Electronic Health Records (EHR). **Methods** The RIGHT 10K study<sup>5</sup>, a collaboration between Mayo Clinic and Baylor College of Medicine, enrolled 11,098 participants (60% female) who had 77 PK and PD genes sequenced. We defined AD prevalence (data: 01/01/2004 to 08/01/2021) as any AD prescription during the 12 months preceding sample collection. Prevalence was summarized by drug class and menopausal status (>54 years). Firth logistic regression was used to test for differences in AD prevalence considering  $p < 0.0022$  as significant. We report the estimated odds-ratios (OR) and corresponding 95% confidence-intervals (95CI). The severity of the 16-week interval following AD initiation will be assessed by using the Clinical Global Impressions scales (Severity & Improvement) and Patient Health Questionnaire-9 (PHQ-9) scores, to test treatment outcome for an interaction with genotype. Results 12-month AD prevalence for the total sample was 27.41% (females 34.2%, males 16.9%). 49.8% of AD prescriptions were for SSRIs (females 49.6%, males 50.34%) and 13.6% for SNRIs (females 14.7%, males 10.2%). Women pre- and post-menopause had similar prevalence rates for SSRIs (14.5% vs 15%) and SNRIs (48.4% vs 50.6%). Controlling for age and calendar year at sample collection, men were significantly less likely to be prescribed SSRIs (OR = 0.51, 95CI = 0.45-0.57,  $p < 1E-5$ ) or SNRIs (OR = 0.36, 95CI = 0.27-0.46,  $p < 1E-5$ ). Discussion Women had a significantly higher probability of being prescribed SSRIs or SNRIs than men. Accounting for sex differences in research can have a significant impact on women's health. To expand our assessment of pharmacogenomics of treatment response in this cohort, we plan to develop an automated analysis of response and remission using EHR and PHQ-9 scores, aided by data abstraction. Our study has several limitations: prescriptions do not equal exposure or adherence to

ADs; we did not control for drug duration; and finally, menopause does not occur at the same age for every woman. Research supported by: Mayo Foundation for Medical Education and Research, NIH grant GM008685 (NIL), and Mayo Clinic School of Graduate Medical Education (JASR).

#### No. 106

##### **Disparities in Mental Health Symptoms Among Sexual and Gender Minority Subpopulations in a National Sample of College Students**

*Poster Presenter: Melissa Vázquez*

*Co-Authors: Lauren Fowler, Ellen Fitzsimmons-Craft, Anne Claire Grammer, Craig Barr Taylor*

#### **SUMMARY:**

**Background:** Mental health disparities among sexual and gender minority (SGM) young adults are well documented. Yet, few studies have examined mental health disparities within SGM subpopulations. Importantly, even fewer have investigated disparities that may exist for individuals whose SGM identities are non-monosexual or gender non-binary, who may experience exacerbated marginalization and increased mental health disparities in line with the health equity promotion model. **Method:** A total of 641 gender minority (GM) and 4,894 sexual minority (SM) students across 25 U.S. colleges and universities completed assessments measuring weight and shape concerns, depressive symptoms, and anxiety symptoms (general anxiety, social phobia, panic, and post-traumatic stress) as part of the iAIM EDU study. Self-reported sexual orientation (subpopulations included lesbian or gay, bisexual, queer, and questioning) and gender identity (subpopulations included trans man, trans woman, and genderqueer) were also collected. Separate multiple linear regressions with robust standard errors were conducted to examine associations between mental health symptoms and gender identity and sexual orientation, adjusting for race, ethnicity, and age. We hypothesized that GM students who identify as genderqueer and SM students who identify as bisexual, queer, or questioning (i.e., gender non-binary and non-monosexual identities) would experience more psychopathology symptoms in comparison to their GM peers who identify as trans men or trans

women, and their SM peers who identify as gay or lesbian, respectively. **Results:** Students identifying as genderqueer had significantly greater elevations in panic symptomatology than students identifying as trans women and significantly greater elevations in general anxiety symptoms than trans men ( $ps < 0.05$ ). Bisexual and queer students had significantly greater elevations on weight and shape concerns, depressive symptoms, and all anxiety measures except social phobia than students who identified as gay or lesbian ( $ps < 0.05$ ). Students who identified as questioning had significantly lower panic symptoms in comparison with students who identify as gay or lesbian ( $p < 0.05$ ). **Discussion:** Certain non-monosexual and gender non-binary subpopulations of SGM students may be at even greater risk for adverse mental health symptoms in comparison to other SGM subpopulations who already suffer from well-documented mental health disparities. Namely, bisexual and queer students may be at higher risk for weight and shape concerns, depressive symptoms, and anxiety symptoms, and genderqueer students may be at higher risk for some anxiety symptoms in comparison to students with monosexual SM and binary GM identities, respectively. Clinicians and institutions should be aware of these disparities to inform targeted mental health treatment and prevention among increasingly diverse student populations. This study was supported by the National Institute of Mental Health.

#### No. 107

##### **The Use of a Virtual Reality Application Was Investigated in Alcohol Use Disorder Treatment After Clinical Detoxification.**

*Poster Presenter: Victor J.A. Buwalda, M.D.*

#### **SUMMARY:**

**Background:** Alcohol Use Disorder (AUD) is a tremendous health challenge that affects the life of many people. In the US over 15 million adults deal with an AUD and over five percent of the burden of disease and injury worldwide was attributable to alcohol consumption. Although treatment programs are available, about 6.7 percent received an treatment (NIH, 2018). According to Dutch research between 47-75% of AUD patients relapse in the first year after clinical detoxification. New digital

technologies, such as Virtual Reality (VR), provide potential adjuvant treatment possibilities for AUD patients. **Methods:** In a quasi-experimental study the experiences of AUD patients with a newly developed VR application used as an adjuvant to the treatment after clinical detoxification is analyzed. The aim of this study is to gain more insight into the degree of acceptance by patients of the use of a VR-app. In addition, the study investigated also the difference in acceptance in two ways of VR. Three groups are compared: 1) a group of 17 AUD patients who received "treatment as usual" (TAU); 2) a group of 16 AUD patients exposed to computer-generated (VR-CG) worlds; and 3) a group of 18 AUD patients who were offered the same environments as the VR-CG world but in a 360° recorded version (VR-360). Also side effects of VR are studied and whether VR can help to strengthen self-efficacy for abstinence, and reduce craving in AUD. The conditions 2 and 3 are offered three sessions of 15 minutes of VR on days 1, 4 and 7 of the last week of their stay in clinical detoxification. Just before and immediately after each session, the patients completed a number of questionnaires about the degree of self-efficacy, perceived craving, experienced side effects and their general experiences with VR. An oral interview about their experiences was held after the third session, during which a written satisfaction questionnaire was also completed. A neutral VR-environment, a green (safe) VR-environment; a home VR-environment and a bar VR-environment were offered, all in both VR-CG and VR-360° version. **Results:** Before the start of treatment, patients indicated that they had little to no knowledge of VR. In retrospect, most patients indicated that they were positive about VR as an adjuvant for their AUD-treatment and gave an average satisfaction score of 7.4. The VR sessions evoke some craving, which is especially present during the sessions; especially seeing the apartment evokes a lot of craving. Self-efficacy increased significantly over the three sessions in the two intervention groups, while in the patients in the control group it remained the same and even decreased slightly. **Conclusion:** VR as an adjuvant in the AUD-treatment is successful and yielded a number of promising results. Patients accept the intervention, are satisfied and experience it as helpful. The self-efficacy was strengthened by

the use of the VR. There were hardly any side effects as a result of the use of the VR.

## Poster Session 6

### No. 1

#### **Predicting Antidepressant Treatment Outcomes Using Machine Learning on Electronic Health Records**

*Poster Presenter: Jyotishman Pathak*

*Co-Authors: Veer Vekaria, Fei Wang, Judith Cukor*

#### **SUMMARY:**

Background: Antidepressant treatment efficacy is low, which exacerbates the social and economic costs of managing depression and obtaining effective treatment outcomes. Developing a reliable tool for predicting an individual's response to antidepressant treatment has the potential to reduce these burdens associated with depression.

**Methods:** This study of 808 managed care patients with depression used electronic health records (EHRs) and multiple machine learning models, such as Gradient Boosting Decision Tree (GBDT), to predict a treatment outcome during the first 6 months following an antidepressant prescription. A "Recovering" or "Worsening" antidepressant treatment outcome was defined based on trends in symptom severity over time, which was measured by the slope of patients' Patient Health Questionnaire-9 (PHQ-9) score trajectories spanning 6 months following treatment initiation. The ability of EHRs to predict treatment outcome was measured by the area under the receiver operating characteristic (AUC), precision, and recall. **Results:** The best predictive results (AUC: 0.7654±0.0227; precision: 0.6002±0.0215; recall: 0.5131±0.0336) were obtained when using the GBDT classifier. When excluding patients with low PHQ-9 scores (<10) at baseline, the results in terms of AUC, precision, and recall were: 0.7254±0.0218; 0.5392±0.0437; and 0.4431±0.0513, respectively. Diagnostic codes and baseline symptom severity were strong predictors.

**Conclusion:** These findings demonstrate the potential utility of using data from EHRs and machine learning methods to predict antidepressant treatment outcomes. Further development of the predictive tools presented in this study hold the

promise for accelerating the personalization of medical management of patients with psychiatric illness.

## No. 2

### **Changes in Depression and Anxiety Symptoms During Antidepressant Treatment in Adults**

*Poster Presenter: Jyotishman Pathak*

*Co-Authors: Veer Vekaria, Fei Wang, Judith Cukor*

#### **SUMMARY:**

**Background:** Antidepressant treatment response can be estimated by tracking the course of symptom change over a series of treatment sessions.

However, many prognostic factors can influence response trajectories, and patients with depressive and anxiety symptoms may respond differently to the same antidepressant treatment. **Methods:**

Repeated measurements of Patient Health Questionnaire-9 (PHQ-9) and General Anxiety Disorder-7 (GAD-7) scores were used to track the symptoms and severity of depression and anxiety in patients for 12 weeks after initiating an antidepressant treatment. Group-based trajectory modeling was used to generate trajectories that cluster patients with similar trends in symptom progression. Finally, multinomial logistic regression was used to explore associations of various baseline patient characteristics with the different trajectories.

**Results:** Of the 577 participants, 373 (64.64%) were female, and the mean age was 39.34 (SD: 12.87) years. Six depression trajectory subgroups were identified, which included three subgroups that responded to antidepressant treatment and three other subgroups that showed nonresponse. In particular, for three responded subgroups: one group with severe baseline depression showed a steady, yet substantial improvement in symptoms (n=49, 8.49%). Two groups with moderate baseline depression showed more rapid response (n=93, 16.12%) and remission (n=106, 18.37%). For three nonresponse subgroups: one group had severe baseline symptoms (n=62, 10.75%), and two groups had moderate baseline symptoms (n=137, 23.74% and n=130, 22.53%). Similar patterns were also observed in anxiety trajectories, which included six trajectory subgroups. In particular, three subgroups demonstrated response to antidepressant

treatment: two groups with severe baseline anxiety showed a rapid response (n=100, 17.33%) and remission (n=66, 11.44%), and one group with moderate baseline anxiety also achieved remission (n=93, 16.12%). The three nonresponse subgroups included one group with severe baseline anxiety (n=106, 18.37%) and two groups with moderate baseline anxiety (n=97, 16.81% and n=115, 19.93%). Anxiety nonresponse was typically associated with higher pre-treatment depression severity, poorer sleep quality, healthier lifestyle, lower pre-treatment anxiety severity, and non-white race. **Conclusion:** The observed trajectory patterns demonstrate one example of the various paths to improvement or maintenance in depression and anxiety. This analysis sheds light on the often overlooked heterogeneity between depression and anxiety and illustrates that treatments suitable for one condition alone may be insufficient for addressing symptoms of the other.

## No. 3

### **Psychiatry Clerkship During the Pandemic—Lessons Learnt at Penn State College of Medicine.**

*Poster Presenter: Usman Hameed, M.D.*

*Co-Author: Ahmad Hameed, M.D.*

#### **SUMMARY:**

**Background:** Medical educators were tasked with creating and implementing a remote learning experience with the challenges brought about by the COVID19 pandemic<sup>1</sup>. As students were removed from in-person clerkships due to safety concerns<sup>2-5</sup>, we promptly established an alternative curriculum aimed at providing a meaningful educational experience. **Objectives:** Provide high quality education in the remote learning environment to supplement an abbreviated in-person experience, upon return to the clinical setting. **Methods:** In collaboration with our office of medical education, our clerkship curriculum was revised from a block rotation to a longitudinal integrated model. Educational activities were separated into *indirect patient care* (IPC) or virtual learning, and *direct patient care* (DPC) experience upon their return to campus. The IPC activities included synchronous virtual orientation, video case based learning, telepsychiatry simulation utilizing standardized patients, and virtual team-based learning.

Asynchronous activities involved virtual self-learning modules as well as opportunities for research and scholarship. Learners were integrated into patient care delivery via virtual rounds and telehealth patient visits. The IPC phase introduced students to telehealth skills and experiential learning by allowing opportunities for clinical care, while safely preparing them for return to in-person patient care. During DPC activities, learners physically returned to patient care areas with safety guidelines in place. As capacity allowed, learners were provided adequate exposure to their preferred areas of interest due to abbreviated in-person clinical experience. The outcome measures were data obtained from the end of course evaluation by the students. The specific items used were: (1) Faculty/preceptors provided effective teaching. (2) The feedback I received from attendings/residents helped me improve my patient care skills during the rotation. (3) I was able to establish a meaningful relationship with at least one preceptor/attending during this rotation. (4) I was able to play a significant role in patient care during this rotation. (5) Rate the quality of your educational experiences in this course/clerkship. **Results:** The revised curriculum was well received as the percentage of students who “Agreed” and “Strongly agreed” with these measures were as follows: 96% for item 1 (N=98), 95% for item 2 (N=97), 94% for item 3 (N=98), 88% for item 4 (N=98), and 90% rated the quality as 4 or 5 on a 1-5 Likert scale. **Discussion:** Medical education has traditionally included pre-clinical didactics and direct patient care experiences, for learning necessary skills to become compassionate and knowledgeable clinicians<sup>3</sup>. Suspension of on-site clinical experiences in clerkships, in favor of virtual learning modalities has been a challenge<sup>2-5</sup>. We discuss our experiences with the alternate curriculum and potential educational initiatives for medical education in future.

#### **No. 4**

##### **Suboxone Consultation Service: A Unique MAT Approach for OUD to Connect Dots for Complex Patients**

*Poster Presenter: Lidia Klepacz, M.D.*

*Co-Author: Eldene Gwen Towey, M.D.*

#### **SUMMARY:**

The opioid epidemic is one of the largest health crises in the history of our country. The 2017 National Survey on Drug use and Health, Mortality in the United States showed that 2.1 million people had an opioid use disorder, 130 people died daily from opioid-related drug overdoses, 81,000 people used heroin for the first time, and 11.4 million people misused prescription opioids.<sup>1</sup> A review of the literature demonstrates that there is a strong link between mental illness and substance use disorders. One study showed that patients with opioid use disorder also had comorbid mental illnesses with the following prevalence rates: any mood disorder 54.2%, any anxiety disorder 36.3%, depression 45.6%, dysthymia 15.4%, mania 17.4%, generalized anxiety 10.7%.<sup>2</sup> Despite this well-studied link between mental illness and opioid use disorder, there has been a lack of integration of care in treating these two conditions. Many times, patients are unable to receive treatment for their mental illness, substance use, and medical concerns simultaneously. Our session will describe the unique strategies we've enacted in the Westchester Medical Center Health Network to address this issue. We will describe how we've developed a MAT Consultation Service for our inpatient psychiatric units, allowing patients that were hospitalized for their mental illness to receive treatment for their substance use disorders, independently of their mental illness. We will elaborate on the various strategies implemented to improve patient outcomes, such as motivational interviewing, improving the therapeutic alliance, harm-reduction techniques, and patient-centered treatment. We will demonstrate how we've integrated this strategy throughout the network, including with our inpatient substance use rehabilitation center, Kyle Goldberg Turning Point. Our facility is unique in that it addresses the underlying and co-occurring mental illness, in addition to the substance use disorders. We will show how this novel approach to connect silos can dramatically improve patient outcomes and encourage patients to remain in treatment. Our poster will describe testimony from patients that has directly benefited from these programs. Additionally, we hope to provide a framework for other facilities and agencies to mirror our success with this program.

## No. 5

### **Workplace Absenteeism Associated With Alcohol Use Disorder: Findings From the National Survey on Drug Use and Health 2015–2019**

*Poster Presenter: Ian C. Parsley, M.D.*

*Co-Authors: Ann Marie Dale, Sherri Fisher, Carrie Mintz, Bradley Evanoff*

#### **SUMMARY:**

Importance: Alcohol use disorder (AUD) is common and associated with increased morbidity. Despite this, the impact of AUD on workplace absenteeism is not well characterized in the U.S. Objective: This study examines the relationship between AUD and workplace absenteeism in a nationally representative sample. Design: Surveys from the 2015-2019 National Survey on Drug Use and Health were used to examine the relationship between AUD and workplace absenteeism. Setting: A nationally representative sample of non-institutionalized U.S. residents. Participants: Respondents aged 18 years and older who reported full-time employment. Main Outcomes and Measures: Primary outcomes were markers of workplace absenteeism as defined by the number of days missed from work due to illness/injury and days skipped from work in the last 30 days. Descriptive statistics, attributable risk, prevalence ratios, and logistic regression analyses were performed to assess the association between AUD and absenteeism. Results: A total of 110,701 adults aged 18 and older (53.2% male; 46.8% female) reported current full-time employment. Weighted prevalence of AUD in this sample of working adults was 9.3%; 6.2% of respondents met criteria for mild AUD, 1.9% for moderate AUD, and 1.2% for severe AUD. Mean days missed from work increased in a stepwise fashion with increasing AUD severity. Estimated total excess days missed from work attributable to AUD per year was 4.44 (95% CI, 4.20-4.68) days for mild AUD, 11.28 (95% CI, 9.12-13.44) days for moderate AUD, and 20.40 (95% CI, 15.48-25.32) days for severe AUD. In total, absences attributable to AUD were responsible for 5.3% of all observed absences in the working population. Conclusions and Relevance: AUD disproportionately contributes to workplace absenteeism and results in over 88 million excess lost workdays per year. The

effect of AUD on the workplace is even greater than absenteeism, because of decreased productivity while present at work, which was not captured in this study. These results provide incentive for employers to provide resources to their employees for the prevention and treatment of AUD.

## No. 6

### **Repetitive Transcranial Magnetic Stimulation Improves Depressive Symptoms but Not Craving in Subjects With Cocaine Use Disorder**

*Poster Presenter: Giovanni Martinotti, M.D.*

*Co-Authors: Mauro Pettorruso, M.D., Francesco Di Carlo, Giacomo d'Andrea*

#### **SUMMARY:**

**Introduction:** Despite developments in pharmacotherapy, there are no approved medications to treat cocaine use disorder (CUD). Repetitive transcranial magnetic stimulation (rTMS) has been proposed as a potential therapeutic option for addictive disorders and preliminary data from open-label and single-blind studies have shown that rTMS can reduce cocaine craving and consumption [1,2]. However, large double-blind, sham-controlled, randomized trials have not yet been conducted. We evaluated the effect of rTMS on cocaine craving and percentage of negative urine tests for cocaine as primary outcomes. The secondary outcome was the effect of rTMS on depressive symptomatology. **Methods:** we present results from a multi-centre, between-subject, randomized, double-blind trial. Eighty treatment seeking CUD patients were assigned to active or sham (placebo) treatment groups Active group (n=42) underwent 2 weeks of intensive rTMS treatment (15Hz; 5 days/week, twice a day for a total of 20 stimulation sessions) of the left dorsolateral prefrontal cortex, followed by 12 weeks of maintenance treatment (1 day/week, twice a day), and by a 12-week follow-up phase. Sham group (n=38) underwent the same treatment schedule but with placebo rTMS treatment. **Results:** There was no significant difference between the groups either for cocaine craving or negative urine tests after the intensive treatment phase and throughout the study period, while observing a significant decrease in both study groups. A significant difference between the groups was



observed regarding the changes in depressive symptomatology in favour of the active group. The improvement in depression scores was greater in the subjects who participated in more than 40 rTMS sessions and in the subgroup of subjects with higher depression levels. **Conclusions:** In this study we confirmed the significant improvement of CUD symptoms during active rTMS treatment over the DLPFC, as previously reported in open label studies. However, there was no significant difference between the active and sham groups, thereby casting doubt on a direct efficacy of rTMS for CUD, at least with this specific treatment paradigm. Notwithstanding, our result support the notion that active rTMS could be beneficial in cocaine users with high comorbid depressive symptoms. Interestingly, this is the first report of a sustained and long-lasting beneficial effect of sham (placebo) stimulation in a sample with a long history of severe cocaine use. Future studies should consider the heterogeneity of cocaine users, thus providing a specific symptom-based sample characterization (phenotyping). Moreover, a placebo lead-in could reduce the number of placebo responders, thus improving the reliability of future device-based RCT in CUD.

#### **No. 7**

##### **Benzodiazepines: A Community-Wide Experience**

*Poster Presenter: Ricardo Irizarry, M.D.*

*Co-Authors: Daniel Gutierrez, M.D., German Enrique Corso, M.D.*

##### **SUMMARY:**

**Objectives:** To examine the feasibility of implementing a prescription policy for benzodiazepines (BZD) that promotes evidence-based treatment in a community mental health care agency in South Texas **Methods:** In a two-phase effort, a community mental health organization in South Texas established a series of interventions to promote an evidence-based BZD prescription structure including reducing the long-term use of these medications. The organization, consisting of 24 prescribers, first acquired a protocol which was later adopted into a policy, aiming to decrease the growing problem in the community with misuse, abuse, aggression in the clinic and mortality rates. Clinicians first agreed on a protocol that would allow

a period of adjustment for both patients as well as prescribers. The protocol, established in 2013, followed a summary of evidence-based recommendations obtained through a literature review. After a three-year trial on this first phase, the prescribers moved into a more structured policy called the Benzodiazepine Policy, with the goal of limiting long-term BZD use following the summary of recommendations found in the review of the literature. **Results:** Prescribers were given 6 months to taper off benzodiazepines or find appropriate treatment alternatives for patients already taking these medications in all clinics. Data were collected retrospectively from all 4 clinics after 2 years of implementing the BZD policy. During the period of this effort there was an increase in the number of patients served that totaled 23,781 during 2018. While the number of patients served increased, crisis services and inpatient psychiatric admissions related to BZD use have substantially declined. During the period of 2016 to 2018 there was a total decrease of 24% from the previous years. The number of patient deaths that were associated to BZD fell significantly from 24% in 2015 to 2% in 2018. The number of yearly complaints from patients decreased from 73 in 2016 to 30 in 2018, reflecting that patients were successfully treated for insomnia and anxiety with an alternative medication. Total clinical practicing satisfaction among different prescribers among the center improved from 65% being satisfied or very satisfied prior to implementation of BZD policy to 100% being either satisfied or very satisfied in 2018. **Conclusions:** Implementing a BZD policy that promotes the prescription of these medications that supports an evidence-based treatment in an outpatient clinic is feasible. A policy that encourages the short-term use of benzodiazepines and diminish the use of long-term utilization both results in increase in patient safety, patient satisfaction and prescriber satisfaction. Data analysis shows promising findings on the impact of this policy in reducing crisis services, inpatient admission and total number of deaths that had some association with benzodiazepines.

#### **No. 8**

##### **Gabapentin for GHB Withdrawal: A Case Report**

*Poster Presenter: Lada Alexeenko, M.D.*

*Co-Author: Ramotse Saunders, M.D.*

## SUMMARY:

Gamma-hydroxybutyric acid (GHB), is a short-chain fatty acid related to gamma-aminobutyric acid (GABA). The abuse potential of GHB is most likely the result of its anxiolytic, hypnotic and euphoric effects. In recent decades, GHB has gained popularity as a recreational drug. Chronic use of GHB produces effects on  $\gamma$ -aminobutyric acid (GABA), glutamate, dopamine, serotonin, norepinephrine and acetylcholine systems. Discontinuation of GHB in chronic users results in multiple withdrawal symptoms. A prolonged withdrawal state has been reported, lasting up to 3 weeks in several cases and in some patients for 4 weeks to months. Different medication combinations have been proposed to address withdrawal symptoms. The most commonly used category of medication is benzodiazepines at relatively high doses, in combination with antipsychotic, anticonvulsant, barbiturate, baclofen, and clonidine. We present a case of a 43 year old male with past history of methamphetamine use disorder, sedative, hypnotic, anxiolytic use disorder who was admitted due to altered mental status in the context of drug overdose. Toxicology was positive for amphetamine and MDMA (ecstasy). The patient had several decades of GHB use. The hospital course was complicated by prolonged periods of agitation with psychosis and delirium, lasting several weeks, requiring ICU management with propofol, dexmedetomidine and ketamine. The patient had trials of barbiturate, valproic acid, guanfacine, quetiapine, olanzapine, and midazolam with limited effect. On day 27 the patient was started on high-dose gabapentin in addition to olanzapine and guanfacine. The mental status subsequently normalized. The patient became more logical, agitation and psychotic symptoms resolved in 3 days.

## No. 9

### **Advancing Health Equity: Evidence That a Prescription Digital Therapeutic for Opioid Use Disorder Enables Health Care Access Across Geographic Regions**

*Poster Presenter: Anthony Richards*

*Co-Authors: Heather Shapiro, Yuri Maricich, Keely Boyer*

## SUMMARY:

**Background:** Although behavioral therapies for opioid use disorder (OUD) in combination with medications are standard treatments for OUD,<sup>1</sup> between 80% and 90% of those needing these therapies do not receive them.<sup>2</sup> Among the causes of this disparity are geographical barriers to treatment, which become determinants of mental health.<sup>3</sup> Rural areas without addiction specialists and substance use treatment centers are disadvantaged. Prescription digital therapeutics (PDTs) are software-based treatments evaluated for safety and effectiveness and authorized by the Food and Drug Administration. Accessed remotely via mobile devices, PDTs may help overcome geographic barriers to care and reduce disparities in treatment. **Objectives:** To evaluate associations between geographic regions in the United States and levels of engagement with a PDT for OUD using Rural-Urban Commuting Area (RUCA) classifications based on population density, urbanization, and daily commuting.<sup>4</sup> **Methods:** A database of de-identified data from patients with OUD who completed at least 1 lesson in a 12-week course of treatment with a PDT was analyzed by the following RUCA categories: metropolitan, metro commuting (outside metropolitan), micropolitan (mid-sized cities), small town, and rural. The PDT delivers an OUD-specific form of cognitive behavioral therapy with content mastery reinforced by fluency training. Contingency management is used to reward engagement with lessons and negative urine drug screens. Levels of engagement across RUCA categories were evaluated using: median days active in the PDT, median lessons completed, and percentage of patients retained during weeks 9-12 of treatment (defined as any activity in the app). **Results:** Of an evaluated sample of 5,263 patients, 2,904 were in metropolitan areas, 709 in metro commuting, 1,081 in micropolitan, 300 in small town, and 269 in rural RUCA categories. After normalizing for population density, rural subjects are overrepresented (Cohen's  $h$  range 0.55-1.09). No meaningful differences were observed across metropolitan, metro commuting, micropolitan, small town, or rural RUCA categories in median active days (21, 23, 23, 23, and 22 respectively, Cohen's  $d$  range

0-0.1) or median lessons completed (25, 28, 28, 27, and 27.5 respectively, Cohen's d range 0.01-0.1). The percent of patients retained in weeks 9-12 of treatment (76%, 79%, 80%, 79%, and 79% respectively) demonstrated small effect sizes across most RUCA categories (Cohen's h range 0.05-0.45) except when comparing metropolitan areas to the other 4 categories (Cohen's h range 0.54-0.99) which represent medium effect sizes. **Conclusions:** Patients with OUD across diverse population-based geographic regions engaged at similar levels with a PDT for OUD. These results suggest that PDTs may enable access to behavioral treatments for OUD across geographic areas, thus ameliorating a key determinant of mental health. This study was supported by Pear Therapeutics, Inc.

**No. 10**  
**WITHDRAWN**

**No. 11**  
**WITHDRAWN**

**No. 12**  
**Impact of Relative Exposure to COVID-19 on Trauma, Mood and Anxiety Among Youth With Bipolar Spectrum Disorders**

*Poster Presenter: Christina C. Klein, Ph.D., M.P.H.*  
*Co-Authors: Jeffrey Welge, Ph.D., Thomas Blom, M.S., Melissa P. Del Bello, M.D., Stephen Crystal, Ph.D.*

**SUMMARY:**

**Background:** The COVID-19 pandemic caused a dramatic shift in mental healthcare delivery. MOBILITY (Metformin for overweight and OBese children with bipolar spectrum disorders Treated with second-generation antipsYchotics)-TEACH (Telemedicine Enhanced Access during COVID-19 to Healthcare) characterized the impact of the COVID-19 pandemic on youth with Bipolar Spectrum Disorders (BSD) and their families. **Methods:** Youth and their caregivers enrolled in MOBILITY were invited to complete an online survey via RedCap and a telephone interview from 12/15/20-10/31/21 regarding the impact of COVID-19 on their mental health care, depression, anxiety, trauma, suicidality and substance use. All respondents provided

electronic informed consent or assent if <18 years via RedCap before completing the survey or interview. We hypothesized that greater exposure to COVID-19 would increase rates of depression, anxiety, trauma, suicidality and substance use. **Results:** Patients (N=397) aged 8-23 (M=15.9, SD=3.3) identified as boys (53%), girls (42%) and other (5%). Forty percent were in enrolled in high school, 27% in middle, 11% in elementary and 11% were not currently enrolled. Forty-three (22%) of 196 patients tested positive for COVID-19. Fifty-five percent had someone close to them test positive, 25% had someone close to them hospitalized due to COVID-19 and 11% had someone close to them die of COVID-19. Altogether, 39% of youth reported anxiety worsened and 29% reported depression worsened during the pandemic. Sixteen percent of youth reported more thoughts of being better off dead since COVID-19, 13% endorsed increased suicidal ideation and 13% reported an increase in suicide attempts. There was a trend for an association between someone close to them dying from COVID-19 and reporting suicidal ideation [ $p=0.069$ , Fisher's Exact Test, OR=2.52 (95% CR: 0.98,6.48)] and suicide attempts [ $p=0.07$ , OR=2.44 (CR: 0.95,6.26)]. Fifty-three percent of patients (n=139) reported at least one traumatic event since COVID-19. Of patients reporting at least one event, 28% met ---DSM-5 PTSD criteria, whereas 15% of the overall sample met criteria. There was a statistically significant association between patients testing positive for COVID-19 and meeting criteria for PTSD [ $p=0.037$ , OR=2.71 (CI: 1.12, 6.57)]. There was a trend for association between someone close to them testing positive and PTSD [ $p=0.059$ , OR=2.01 (CI: 0.978, 4.14)]. There was no increase in substance use during COVID-19 in this sample. **Conclusion:** Youth with BSD seem to experience increased anxiety and depression during the COVID-19 pandemic. Testing positive for COVID-19 was associated with the highest risk of developing PTSD for youth with BSD. Screening for PTSD and suicidality in or patients with BSD who have high exposure to COVID-19 is necessary. Funded by PCORI (PCS-1406-19276).

### No. 13

#### **Randomized, Double-Blind, Placebo-Controlled Phase 2b Study of Ecopipam in Children and Adolescents With Tourette Syndrome**

*Poster Presenter: Atul R. Mahableshwarkar, M.D.*

*Co-Authors: Jordan Dubow, Timothy Cunniff, Stephen Wanaski, Donald Gilbert*

#### **SUMMARY:**

**Background:** Ecopipam, a first-in-class selective dopamine-1 (D1) receptor antagonist, is in clinical development for treating pediatric patients with Tourette syndrome (TS). Unlike D2 receptor antagonists, ecopipam is associated with low metabolic and movement-related adverse event (AE) rates. In Phase 2 studies in adult and pediatric TS patients, ecopipam reduced tics with an acceptable safety profile. This study evaluated the efficacy and safety of ecopipam in children and adolescents with TS. **Methods:** Eligible patients with a DSM-5 diagnosis of TS were randomized 1:1 to ecopipam or placebo at a target dose of 2 mg/kg/day. Dose was increased over a 4-week titration period, followed by an 8-week maintenance period. At Week 12, patients were tapered off of drug over a 1-week period. The primary endpoint was the mean change from Baseline (BL) to Week 12 for the Yale Global Tic Severity Score - Total Tic Score (YGTSS-TTS), and the key secondary endpoint was the Clinical Global Impression of Tourette Syndrome Severity (CGI-TS-S). Other secondary endpoints included the CGI-TS-Improvement (CGI-TS-I), YGTSS-Global Score (YGTSS-GS), Caregiver Global Impression of Change (CaGI-C), and the Change in Gilles de la Tourette Syndrome–Quality of Life Scale for Children and Adolescents (C&A-GTS-QOL) at Weeks 4, 6, 8, and 12. Safety and tolerability were evaluated at each study visit.

**Results:** 153 patients were randomized to ecopipam (n=76) or placebo (n=77) at 68 sites in North America (80%) and Europe (20%). 149 patients were included in the modified intent-to-treat population (74 ecopipam, 75 placebo). Mean age was 12.6 years, 73% were male, and 90% completed all 12 weeks of treatment. A significant ( $p=0.011$ , LS mean [SE] difference: -3.4 [1.4], 95% CI: -6.1, -0.8) improvement in the YGTSS-TTS from BL to Week 12 was observed for ecopipam compared to placebo (30% average reduction from BL to Week 12 for ecopipam treated patients, treatment effect size =

0.54) and at all earlier timepoints beginning at Week 4. Mean change from BL to Week 12 was significant on the CGI-TS-S ( $p=0.027$ ). Significant improvement also occurred on many secondary endpoints. AEs occurred in 47 (62%) patients with ecopipam and 38 (49%) with placebo and were treatment-related in 26 (34%) with ecopipam and 16 (21%) with placebo. Common AEs were headache (9.2%), fatigue (6.6%), somnolence (6.6%) and restlessness (5.3%). No metabolic or EPS-related AEs or treatment-related serious AEs were observed, and there were no meaningful safety differences from placebo for labs, vital signs, ECGs, and on scales to assess depression and suicidality. No difference was found between ecopipam and placebo on scales assessing common comorbidities. More patients on placebo gained weight. **Conclusion:** Among children and adolescents with TS, ecopipam was superior to placebo in reducing both motor and phonic tics with significant benefits observed as early as Week 4. Ecopipam was safe and well tolerated.

### No. 14

#### **Increasing Mental Health Service Severity and Utilization in School-Based Health Centers During the COVID-19 Pandemic: Data From a Longitudinal Study**

*Poster Presenter: Mackenzie Stuenkel, M.S.*

*Co-Authors: Kerry A. Howard, M.S., Sarah F. Griffin, Ph.D., Kerry Sease*

#### **SUMMARY:**

School-based Health Centers (SBHCs) offer students access to medical professionals within the school setting to address traditional barriers to care, including services for acute and chronic care, immunizations, and mental health.<sup>1</sup> The importance of such services has been highlighted throughout the ongoing COVID-19 pandemic, as it is hypothesized that adolescents are experiencing heightened rates of mental health conditions, leading to classification as a national crisis.<sup>2</sup> However, there is a lack of longitudinal studies for comparing pre-pandemic to current trends. The purpose of this study was to examine trends in mental health service utilization and severity before and during the COVID-19 pandemic. Data from an ongoing evaluation of 5 SBHCs in South Carolina was used to track patterns

of mental health service utilization and severity throughout three academic years (2018-2019, 2019-2020, and 2020-2021). The sample included data from 1094 students seen in 1926 visits during the three-year study period ( $M_{\text{age}}=13$ , 49% female, 42% Hispanic, 34% Black or African American, 19% White). Two logistic regression models were run to estimate the odds of a visit being classified as a mental health visit based on school year. The outcome variable in the first model was based on the visit description and classified as 1 for mental health visits and 0 for all other types. As a proxy measure for severity, the outcome variable in the second model classified as 1 for students seen in repeated visits during the same school year for a mental health condition. During the 2020-2021 academic year, 42% ( $n=163$  of 392) visits were classified as mental health encounters, demonstrating an overall increase from the combined previous two years (23%). The odds of any visit being related to a mental health encounter were 2.60 times higher during the 2020-2021 academic year when compared to the previous two years, controlling for age, sex, race, and insurance status (95%CI: 2.04, 3.33,  $p<.001$ ). These results were similar for mental health encounters that required repeat visits to the SBHC, where the odds were 2.80 times higher during the 2020-2021 academic year compared to the previous two years (95%CI: 2.16, 3.63,  $p<.001$ ). Prior to the COVID-19 pandemic, prevalence in adolescent mental health conditions had already been increasing at alarming rates.<sup>3,4</sup> Early associations of pandemic related stress on the mental health of adolescents have demonstrated reason for increased concern.<sup>5</sup> These risks are also thought to disproportionately affect the highest risk groups for mental health conditions by exacerbating social determinants for poor health outcomes.<sup>6</sup> Data from this study highlights the alarmingly increasing rates, and potentially the severity, of mental health conditions in adolescents. Future intervention efforts should be prioritized to address mental health needs within the school setting to address traditional barriers to care access in populations at the highest risk.

## No. 15

### Effect Size and NNT of the Dextroamphetamine Transdermal System (D-ATS) for ADHD in Children and Adolescents: Post Hoc Analysis of a Pivotal Study

Poster Presenter: Marina Komaroff

Co-Authors: Brittney Starling, Suzanne Meeves, Mariacristina Castelli

#### SUMMARY:

**Background:** The Dextroamphetamine Transdermal System (d-ATS) can be an alternative to extended-release oral amphetamine formulations for ADHD. In a pivotal study, d-ATS met primary and secondary efficacy endpoints for ADHD in children and adolescents. This post hoc analysis investigated effect size and number needed to treat (NNT) for d-ATS. **Methods:** The study had a 5-week, open-label dose optimization period (DOP) followed by 2-week double-blind period (DBP). Efficacy measures included ADHD-RS-IV and Clinical Global Impression–Improvement scale (CGI-I). Least-squares (LS) means, 95% confidence intervals (CI), and  $P$  values were calculated from a linear mixed model that included ADHD-RS-IV scores for each time point, fixed effects of sequence and treatment, and random effect of subject. Effect sizes based on change in ADHD-RS-IV score from baseline (BL) were calculated as the difference in LS mean score between treatment arms divided by root square error from the model. McNemar test for paired samples was used for responders analysis. NNT was inverse of the difference in proportions between treatment groups. **Results:** In total, 110 patients (pts) were enrolled in the DOP, with 106 randomized in the DBP. Difference (d-ATS-placebo) in LS mean (CI) during the DBP was -13.1 (-16.2, -10.0) for ADHD-RS-IV total score, -7.3 (-9.0, -5.6) for inattention subscale, and -5.8 (-7.6, -4.2) for hyperactivity-impulsivity subscale ( $N=106$ ;  $P<.001$  for each). Effect sizes ranging from 1.2 to 0.9 were observed. d-ATS had an NNT of 3 for remission (ADHD-RS-IV  $\leq 18$ ),  $\approx 30\%$  improvement, and  $\approx 50\%$  improvement (clinically meaningful change) (Table). CGI-I response was achieved in 86% of d-ATS-treated pts vs 24% of placebo-treated pts ( $P<.0001$ ; NNT of 2, Table). **Conclusions:** This post hoc analysis showed that d-ATS is efficacious for treatment of ADHD in children and adolescents. d-ATS efficacy is comparable to oral

d-amphetamine preparations, with a similar effect size and NNT observed with transdermal delivery.

**Acknowledgments:** The authors thank Dr. Andrew J. Cutler for his contributions to the design and execution of this post hoc analysis. This study was supported by Noven Pharmaceuticals, Inc. **Table.**

**ADHD-RS-IV Remission, CGI-I Responder NNT**

Efficacy Measure	d-ATS N=104 <sup>a</sup> n (%)	Placebo N=104 <sup>a</sup> n (%)	NNT <sup>b</sup>
ADHD-RS-IV Remission (=18 at endpoint) <sup>c</sup>	73 (70)	24 (23)	3
ADHD-RS-IV =30% Reduction from BL <sup>c</sup>	93 (89)	44 (42)	3
ADHD-RS-IV =50% Reduction from BL <sup>c</sup>	71 (68)	25 (24)	3
CGI-I Responders <sup>c,d</sup>	89 (86)	25 (24)	2

<sup>a</sup>106 pts were randomized in DBP; 104 pts had assessments from both treatment periods. <sup>b</sup>Inverse of difference in proportions between treatment groups. <sup>c</sup>P<.0001 d-ATS vs placebo; McNemar test for paired samples. <sup>d</sup>“Very Much Improved” or “Much Improved”.

**No. 16**

**Comparative Effectiveness of Intravenous Ketamine and Intranasal Esketamine in Real-World Setting Among Patient’s With Treatment-Refractory Depression**

Poster Presenter: Balwinder Singh, M.D., M.S.  
Co-Authors: Jennifer Vande Voort, M.D., Simon Kung, M.D.

**SUMMARY:**

**Background:** Ketamine, an N methyl-D-aspartate receptor antagonist, has been “repurposed” as a rapid-acting antidepressant for treatment-resistant depression (TRD). The s-enantiomer of ketamine, “esketamine,” was FDA approved for TRD and depressive symptoms in adults with Major depressive disorder with suicidal ideations/behaviors. Intravenous (IV) ketamine, although financially less expensive, is often not covered by insurance and intranasal (IN) esketamine,

although covered by insurance can be expensive. There is a paucity of literature on efficacy data comparing subanesthetic IV ketamine and IN esketamine for TRD in real-world scenario. Thus, we conducted this study comparing the efficacy and the number of treatments required to achieve remission/response with repeated use subanesthetic IV ketamine/IN esketamine among TRD patients.

**Methods:** This was an observational study where we included adults (=18 years) with TRD who provided consent and had received up to 6 IV ketamine infusions (0.5 mg/kg, infused over 40 minutes) or up to 8 intranasal (IN) esketamine (56/84 mg) treatments for TRD at the Mayo Clinic Depression Center. Depression symptoms were measured utilizing the self-report 16-Item Quick Inventory of Depressive Symptomatology (QIDS-SR) scale before and 24 hours after ketamine/esketamine treatment. Remission and response were defined as QIDS-SR 16 score = 5 and = 50% change in QIDS-SR 16, respectively. Continuous variables are reported as means ± SD and categorical variables as counts and percentages. The Wilcoxon rank-sum test was used to compare continuous variables. Chi-square and Fisher’s exact tests were used to compare categorical variables. Number of treatments to remission/response were calculated. **Results:** Sixty-three adults with TRD (60 had Major depression and 3 had Bipolar depression), middle-aged (47.0 ± 12.1 years), predominantly female (65%), of which 75% (n=47) and 25% (n=16) received IV ketamine and IN esketamine, respectively. Mean (SE) change in QIDS-SR 16 score was -8.7 ± 0.7 (p<0.001), a significant reduction (improvement) from baseline (mean ± SD = 17.6 ± 3.7). Overall remission and response rates were 36.5% and 55.6% respectively in the acute phase. Response (55.3 vs 56.3%) and remission rates (40.4 vs 25.0%) were similar among patients who received IV ketamine or IN esketamine, respectively (p>0.05). The mean number of treatments received to achieve response (2.5±1.6 vs 4.4±2.1) and remission (2.4±1.3 vs 6.3±2.4) were significantly lower among patients who received IV ketamine compared to IN esketamine (p=0.008). Most patients tolerated both the treatments well. **Conclusion:** Intravenous ketamine and intranasal esketamine showed similar response/remission in TRD patients but the number of treatments required to achieve response/remission was significantly lower with IV

ketamine compared to IN esketamine. These findings need to be investigated in a randomized control trial comparing these two treatment interventions.

#### **No. 17**

##### **Prophylactic Use of Ramelteon to Prevent Delirium in Hospitalized Patients: A Systematic Review and Meta Analyses of Randomized Controlled Trials.**

*Poster Presenter: Vanessa Marie Dang, M.D.*

*Co-Authors: Elissa Kinzelman-Vesely, Zhen Wang, Bhanu Prakash Kolla*

#### **SUMMARY:**

**Objective:** Ramelteon, a melatonin agonist, is a safe and effective hypnotic medication. Small prospective studies, case reports and some randomized, placebo-controlled trials and previous meta-analyses have shown that it can reduce the risk of developing delirium. Assessing the efficacy of ramelteon for delirium prevention have shown mixed results. The goal of this systemic review and meta-analysis was to assess the current evidence supporting the use of ramelteon in delirium prevention including data from more recent larger trials. **Methods: Medline, Embase, PsycINFO, EBM Reviews, Scopus, and Web of Science** databases were queried using the search terms delirium (with sub-terms including prevention and control), ramelteon, ramelteon or rozerem or melatonin receptor agonists, for English-language publications until March 16, 2021 of randomized, placebo-controlled trials in humans. Randomized, placebo-controlled trials of hospitalized subjects receiving ramelteon or placebo for delirium prevention were examined. The primary outcome of interest was delirium incidence. Odds ratios of the risk of developing incident delirium and 95% CIs were calculated using a random effects model.

**Results:** A total of 177 articles were identified by the literature search. Five studies (n = 443, 53.7% male) met criteria for inclusion in the final meta-analyses. Use of ramelteon was not associated with a reduction in the risk of incident delirium (n = 443; OR = 0.49; 95% CI, 0.13 to 1.85,  $I^2 = 53\%$ ). **Conclusions:** Current evidence suggests that ramelteon is ineffective as a prophylactic drug in reducing the incidence of delirium in hospitalized patients.

#### **No. 18**

##### **Reimagining the Role of Consultation Liaison Psychiatry in Medical Staff Wellness**

*Poster Presenter: Ateaya Ali Lima, M.D.*

*Co-Author: Jesse Allen-Dicker*

#### **SUMMARY:**

For more than a century, the field of psychiatry has expanded with the advent and evolution of psychopharmacological and psychotherapeutic services. During that time, Consultation Liaison (CL) psychiatrists and psychologists have served at the interface of psychiatry and medicine. While the primary focus of CL psychiatry is typically to provide psychiatric services to medically ill patients, CL psychiatrists and psychologists are uniquely fitted to provide additional services within healthcare systems. At Jamaica Hospital Medical Center, not only do we provide psychotherapeutic services to patients, but we have also begun to pilot several programs to better aid our medical teams in patient treatment and staff self-care. One of these programs is a therapy group for medical professionals experiencing emotional distress. This initiative was inspired by a case of suicide on our obstetric unit. We present the case of a 30-year-old female patient with known history of depression committed suicide while admitted to a medical unit within the hospital which resulted in the CL team organizing a series of process-oriented group therapy sessions with staff on the unit to alleviate distress. Upon staff request, this group progressed to including sessions dedicated to processing staff response to the COVID-19 pandemic and developing skills to reduce related-stress. This case demonstrates the unique suitability and placement of the CL service to serve patients as well as staff, especially during the Covid 19 pandemic. We propose expanding the role of a CL service to include staff process and skill-based group therapy to better aid in staff members' response to medical crises and in staff members' overall patient care.

#### **No. 19**

##### **Screening for Psychiatric Disorders in a Tertiary Inpatient Burns Unit Using the Hospital Anxiety and Depression Scale (HADS)**

*Poster Presenter: Cecilia Kwok, M.D.*

**SUMMARY:**

**Background** The Singapore General Hospital (SGH) burns unit is a tertiary center that receives > 93% of burn cases occurring in Singapore, as well as patients from South-east Asia. Burn patients are at increased risk of developing psychiatric disorders; conversely, existing mental illness may complicate treatment and rehabilitation of burns. There is currently no protocol in place to identify these patients.

**Materials and methods** Between October 2018 to Nov 2019, patients admitted to the SGH burn unit for more than 1 week were screened using the Hospital Anxiety and Depression Scale (HADS). Patients who scored more than 7 on either the Depression or Anxiety sub-scale were flagged up and referred to a psychiatrist for a full assessment.

Information on patient demographics, prior psychiatric history, burn location and severity were gathered. **Results** A total of 66 patients were screened. The mean age was 44.8±18.0 years (range 18-82), with 33.3% female and 66.7% male. Most (60.6%) were Chinese, with 16.7% Malay, 15.2% Indian and 7.6% of other ethnicities. Foreigners comprised 33.3% of the patients. About half (48.5%) were workplace injuries. The most common mechanism of injury was scalding by hot liquid (43.9%), followed by flame (30.3%), heat injury (15.2%) and chemical burns (10.6%); none were self-inflicted. The mean % total body surface area (TBSA) involvement was 12.9±14.2% (range 0.5-81%), with 27.3% of patients having facial burns. The mean length of stay was 22.6±22.8 days (range 7-133). Three (4.5%) patients had a prior psychiatric history (insomnia, depression, bipolar disorder). Screening identified 19 patients (28.8%) with abnormal HADS scores. Of these, 36.8% had been independently referred by the burn team for psychiatric consultation. After psychiatric assessment, 5 (7.6%) of the burn patients were diagnosed with a mental illness – 4 had acute stress disorder, 1 had delirium. The burn team had referred only the delirious patient for psychiatric consultation. Patients who screened positive on the HADS were younger (37.5±14.6 vs 47.7±18.6, p=0.035) and more likely to be Singapore residents (38.6% vs 9.0%, p=0.019). There was no correlation between %TBSA, length of stay or facial involvement to screening. **Conclusion** Burn patients in Singapore have a low rate of pre-

existing and comorbid acute psychiatric disorders compared to Western literature. HADS has a high sensitivity as a screening tool, and it picked up patients that the burn team had not identified as needing psychiatric intervention. This preliminary study suggests that HADS is a simple and reliable measure that can be used to screen for psychiatric disorders in an inpatient acute burn setting.

**No. 20****Psychiatry, Ethics, and the Law in New York State: Can a Patient With Schizoaffective Disorder and HIV/AIDS Receive Treatment Over Objection?**

*Poster Presenter: Gwendolyn R. Cody, M.D.*

*Co-Author: Philip R. Muskin, M.D., M.A.*

**SUMMARY:**

A 38-year-old man with a psychiatric history of schizoaffective disorder, bipolar type and advanced AIDS, was admitted to Medicine for treatment of a community acquired pneumonia. Psychiatric consultation was requested to evaluate/manage his psychosis and to assess his capacity to refuse medical interventions. The patient refused IV antibiotics, blood draws, EKG and intermittently refused enoxaparin. On psychiatric evaluation the patient was found to be hostile, labile, and disorganized, with auditory hallucinations and paranoid delusions. He had poor insight into his medical and psychiatric illnesses. He was deemed to lack capacity to refuse antibiotics and to leave AMA. Because of his inability to tolerate a conversation about his condition and his repeatedly stating, "I'm not sick," we concluded that he lacked capacity to refuse any necessary medical or psychiatric intervention. The plan was for an involuntary psychiatric admission, following medical clearance, due to inability to care for himself in the community. While on the medical unit awaiting psychiatric admission, questions remained about which tests and treatments should be given over objection in this unpredictable patient who lacked capacity and without a surrogate decision-maker. Although capacity assessments often involve input from Psychiatry, subsequent decisions about treatment over objection are guided by ethical and legal principles. The legal specifics vary from state to state. In New York State, treatment over objection in



the medical setting falls under the purview of the Family Health Care Decisions Act. This law makes different provisions for “routine” versus “major” medical treatments. Non-emergent psychotropic medication is generally considered “major” medical treatment. The Act also allows for input from the ethics committee of a hospital. In this case consultation from ethics was requested; however, the issue remained incompletely resolved due to conflict between the most ethically appropriate treatment and the most legally appropriate treatment. This conflict, along with uncertainty about the ethical and legal principles themselves, caused both the Medicine and Psychiatry teams significant moral distress. The desire to properly treat the patient, opposed to the concern about removing his autonomy was challenging for the physicians. Ultimately, with reinitiating and up-titrating antipsychotics, which he accepted, the patient became less labile, more organized, and accepting of oral antibiotics and antiretrovirals. His physical condition improved. He no longer met criteria for involuntary psychiatric admission and was discharged home. In this poster, we discuss the importance of understanding the legal and ethical environments surrounding psychiatric and medical treatment over objection for patients with severe psychiatric illness in the medical setting in New York State, in order to provide the most appropriate care while minimizing distress for providers.

## No. 21

### **The Safety and Efficacy of COMP360 Psilocybin Therapy in Treatment-Resistant Depression: Results From a Phase 2b Randomized Controlled Trial**

*Poster Presenter: Guy Goodwin*

*Co-Authors: Susan Stansfield, David Hellerstein, Allan Young, Ekaterina Malievskaia*

#### **SUMMARY:**

**Background:** Rigorously designed trials are required to substantiate promising signals of the efficacy and safety of psilocybin therapy for depressive states. Here, we report topline results from the largest randomised controlled trial of psilocybin to date.

**Methods:** This was a phase IIb, international, multicentre, randomised, fixed-dose, double-blind trial to assess the safety and efficacy of two doses

(25mg or 10mg) of COMP360 (COMPASS Pathways’ proprietary synthetic psilocybin formulation) in individuals with treatment-resistant depression (TRD), compared with COMP360 1mg. COMP360 was administered alongside psychological support from specially trained therapists delivered before, during, and after COMP360 administration. Participants were followed up for 12 weeks post-administration and completed safety and efficacy assessments 1 day, 1, 2, 3, 6, 9, and 12 weeks post-administration. The primary efficacy endpoint was the change from baseline in Montgomery-Åsberg Depression Rating Scale (MADRS) total score at week 3, assessed by a blinded assessor. **Results:** 233 participants were randomised to 25mg (n=79), 10mg (n=75), or 1mg (n=79) COMP360 (mean age 39.8 years, standard deviation 12.19; 121 female, 112 male; 94% had no prior psilocybin experience). 209 participants completed the trial and 24 discontinued (5, 9, and 10 participants in the 25mg, 10mg and 1mg arms respectively). In terms of the primary endpoint, a statistically significant reduction in MADRS total score from baseline at week 3 was found for the 25mg vs 1mg group (mixed-model repeated-measures analysis, least square mean treatment difference of -6.6, 95% confidence interval = -10.2, -2.9,  $p < 0.001$ ) with statistically significant differences seen from day 2 up to week 6. A non-statistically significant treatment difference was found for the 10mg dose of COMP360 compared to 1mg: -2.5 points (95% confidence interval = -6.2 to 1.2,  $p = 0.184$ ). COMP360 was generally well tolerated, with more than 90% of treatment-emergent adverse events (TEAEs) mild or moderate in severity. The treatment-emergent adverse event (TEAE) incidence was 83.5% (66 patients) in the 25mg group, 74.7% (56 patients) in the 10mg group, and 72.2% (57 patients) in the 1mg group. Treatment-emergent serious adverse event (TESAE) incidence was 6.3% (5 patients) in 25mg group, 8.0% (6 patients) in 10mg group, and 1.3% (1 patient) in 1mg group. **Conclusion:** COMP360 25mg was generally well-tolerated and was associated with a statistically significant treatment difference of 6.6 points on the primary endpoint of change from baseline in MADRS total scores vs. the 1mg dose at week 3. There was a rapid reduction of depressive symptoms for the 25mg arm with a significant treatment difference compared with the 1mg arm from the day after

COMP360 psilocybin administration up to week 6. Results support further development of COMP360 psilocybin therapy for TRD. This study was sponsored by COMPASS Pathfinder Limited.

## No. 22

### **The Economic and Humanistic Burden of Bipolar Disorder in Adults in the United States**

*Poster Presenter: Todd Grinnell*

*Co-Authors: Carole Dembek, Xiaoli Niu, DeMauri Mackie, Ph.D., Kushal Modi*

#### **SUMMARY:**

**Objectives:** To assess the economic and humanistic burden of bipolar disorder (BP) among adults in the US compared with a general population and across disease severities. **Methods:** Data were collected from the 2020 US National Health and Wellness Survey (NHWS), a nationally representative, cross-sectional online survey. Respondents ( $\geq 18$  years) were included if they either had experienced BP symptoms in the past 12 months and/or reported a diagnosis of BP. A general population cohort without BP was identified using 2:1 propensity score matching. This study examined Healthcare Resource Utilization (HRU) including respondent's self-reported all-cause physician office visits, hospitalizations, ER visits, and medications in the past 6 months. Annual direct costs were calculated by multiplying the units of HRU by the average unit cost derived from the 2018 Medical Expenditure Panel Survey (MEPS). Indirect costs were calculated by multiplying the number of work hours missed/affected from the WPAL by average 2019 hourly wage from the Bureau of Labor Statistics. Quality of life was measured by EuroQol 5-Dimension Health Questionnaire (EQ-5D). Depression symptom severity was stratified based on Patient Health Questionnaire (PHQ-9) scores into none/mild (0-9), moderate (10-14), and severe (15-27). Outcomes were compared between patients with BP vs. general population, as well as between three depression severity levels. Multivariate regression models were used to control for confounders (demographic factors, socioeconomic factors, and health insurance) and adjusted means of each outcome were reported for each group. **Results:** A total of 3583 adults with BP were

identified (1401 mild, 889 moderate, and 1293 severe), and 6570 adults were matched in general population cohort. Adjusted mean numbers of all-cause hospitalizations in the past 6 months were 0.30, 0.46 and 0.50 in the none/mild, moderate, and severe group, respectively. Annual per-patient direct costs were \$14,389 for none/mild, \$22,302 for moderate, and \$21,341 for severe group. Similarly, annual per-patient indirect costs increased from \$10,799 in none/mild group to \$17,109 in moderate group and \$18,470 in the severe group. EQ-5D score ranged from 0.768 in none/mild to 0.671 in moderate and 0.592 in severe group. Results for the moderate and severe groups were all statistically significant compared to the none/mild group. All-cause hospitalizations (0.53 vs. 0.30, annual direct costs (\$20,846 vs. \$11,391,) and indirect costs (\$14,795 vs. \$9,274) as well as average EQ-5D score (0.685 vs. 0.790) were all significantly higher for the BP cohort (all p-values $<0.0001$ ), compared to general population. **Conclusions:** The direct and indirect costs, as well as quality of life impairment were significantly higher among adults with BP, compared to general population. More severe depression as measured at the time of the survey was associated with significantly higher economic burden and lower quality of life.

## No. 23

### **The Impact of COVID-19 on the Mental Health of Asian Americans: Depression Levels, Risk and Protective Factors: A Systematic Review**

*Poster Presenter: Sahil Anand*

*Co-Authors: William Guo, M.D., Christina Garza, M.D., Akhil Shenoy, M.D.*

#### **SUMMARY:**

Background: Coronavirus (COVID-19), initially reported in Wuhan, China in December 2019 and declared a pandemic by the WHO in March 2020, has impacted global mental health outcomes. In the United States, the media reported increased Asian American racial discrimination and violence during COVID-19, potentially due to the virus' origination in China. This study's goal was to evaluate the COVID-19 impact on Asian American mental health, focusing on depression levels and relevant risk and protective factors. Methods: We conducted a

systematic review across four databases: PubMed, PsycInfo, Embase, and Web of Science. The search strategy combined multiple synonyms of COVID-19 and depression. Inclusion criteria selected observational studies, surveys, cross-sectional, case-control, case-series or cohort studies, articles containing control groups  $n = 10$ , and participants who identified as "Asian American". Results: Overall, the search strategy yielded 3,788 results and 14 articles were included after full-text review. Six articles revealed that Asian Americans' depression levels increased during times of COVID-19 compared to that of pre-covid. Compared to other races, Asian Americans had a greater increase in depressive symptoms during the pandemic, according to four articles. Eight articles reported that COVID-19-related racial discrimination was a strong risk factor for increasing Asian American depression levels. Greater levels of both self-reported and vicarious racial discrimination were associated with increases in depressive symptoms. Personal racial discrimination manifestations included verbal and physical attacks, anti-Asian jokes, and suspicious treatment in public spaces. Examples of vicarious racial discrimination were overhearing anti-Asian sentiment and learning about anti-Asian discrimination from others or news outlets. Emotional factors also increased Asian American depressive symptoms during the pandemic. Greater levels of COVID-19-related fear, worry, and stress were significant predictors of increased depressive symptoms. One article found that Asian Americans self-reported greater fear and worry levels during COVID-19 compared to other races. The protective factors of resiliency, social support, and strong coping strategies were associated with reduced depressive symptoms during COVID-19. Conclusion: Many studies demonstrated an increase in Asian American depression levels and symptoms during the COVID-19 pandemic. Racial discrimination and emotional factors were associated with depressive symptoms, while resilience, strong social networks, and coping strategies acted as protective factors. Further research is needed to explore the impact of COVID-19 on other Asian American mental health outcomes including anxiety, suicidality, and PTSD. This research could help inform mental health care providers in interacting with the vulnerable Asian

American population and developing appropriate mental healthcare interventions.

#### **No. 24**

#### **Perfectionism, Stigma, and Depression in Recent Fathers**

*Poster Presenter: Daniela Pereira*

*Co-Authors: Antonio Macedo, Ana Telma Pereira*

#### **SUMMARY:**

**Introduction:** Paternity can be a unique and special phase in the life of males, but it is also subject to risks and particularities of the perinatal period. Depression in this population can present special characteristics, such as the possible delay in its recognition and the fact that even when recognized, a long or absent search for health care may be present. In addition, gender roles and stigma contribute to aggravate the sensitivity to detect depression, as fathers are driven by the social agreement that men should refrain from asking for help and be emotionally suppressed. Perfectionism has also been found to be associated with multiple psychological disorders, for example anxiety disorders, eating disorders and depression, but have received little attention in perinatal depression. To the best of our knowledge there are no studies that evaluate the role of stigma and perfectionism in development of depression in recent fathers. **Aim:** To analyze the role of stigma in the relationship between perfectionism and perinatal depression in recent fathers. **Methods:** 203 men who were fathers of children under 13 months of age were recruited through social media and answered an online survey that included the Portuguese versions of: Multidimensional Perfectionism Scale (MPS-13; assesses three dimensions of perfectionism: self-oriented, other-oriented and socially prescribed), Link's Perceived Devaluation and Discrimination Scale (PDD; assesses social stigma and personal stigma), Postpartum Depression Screening Scale (PDSS-19) and Male Depression Risk Scale (MDRS-22). **Results:** Socially prescribed perfectionism (SPP) significantly ( $p < .01$ ) correlated with social ( $r = .206$ ) and personal ( $r = .191$ ) stigma and depression, as evaluated with PDSS-19 ( $r = .433$ ) and with MDRS-22 ( $r = .461$ ). Stigma dimensions presented low correlation with PDSS-19 ( $r < .20$ ,  $p < .05$ ) and

moderate with MDRS-22 ( $r > .25$ ,  $p < .01$ ). The mediation models tested (using Macro PROCESS for SPSS; Hayes 2018), revealed that social stigma was a partial mediator of the relationship between perfectionism and MDRS-22 ( $R^2 = 4.2\%$ ; Direct effect: 1.421, IC95%: 1.013-1.829; Indirect effect: .095, IC95%: .012-.212,  $p < .001$ ), as well as personal stigma ( $R^2 = 3.6\%$ ; Direct effect: 1.414, IC95%: 1.001-1.824; Indirect effect: .101, IC95%: .0136-.230,  $p < .001$ ). In mediation models in which PDSS-19 was the dependent variable only the direct effect of SPP on depression was significant. **Conclusion:** While MDRS evaluates more internalizing dimensions, PDSS is better to assess more externalizing domains. This can explain why only the direct effect of perfectionism was significant in the mediation model where depression was evaluated with PDSS while when MDRS stigma partially mediated that relationship. Our results show that besides depression, stigma should also be tracked when evaluating recent fathers, especially if high levels of perfectionism were present.

#### No. 25

##### **Use of a Natural Language Processing-Based Approach to Identify Common Side Effects Related to SSRIs to Support Depression Research**

*Poster Presenter: Cameron Jones, Ph.D.*

*Co-Authors: Alison Spencer, Ph.D., Michelle B. Leavy, M.P.H., Gary Curhan, M.D., Sc.D., Pedro Alves, B.S.*

##### **SUMMARY:**

**Background:** Major depressive disorder (MDD) affects an estimated 16.2 million adults and 3.1 million adolescents in the United States and can result in reduced quality of life, impaired function, and increased mortality. Treatments are available, but new research is needed to inform treatment selection, treatment sequencing, and decisions about medication discontinuation. Data from electronic health records (EHRs) could be used to support research on depression treatment and to monitor depression outcomes over time, but some critical data, such as common side effects related to treatment, are recorded in clinical notes rather than in structured fields. **Objective:** To examine the feasibility of identifying and extracting common side effects related to selective serotonin reuptake

inhibitors (SSRIs) from clinical notes. **Methods:** Data for this study were drawn from the OM1 Real World Data Cloud (OM1, Inc, Boston, MA, USA). All data were de-identified, and the study was IRB approved. The study cohort was restricted to patients with a diagnosis of MDD who had at least one mention of a SSRI in a clinical note. A natural language processing-based approach was used to extract mentions of side effects. Our approach identifies collections of linguistic patterns used to record side effects in clinical notes. We constructed language models and built a review capability that allowed subject matter experts to validate the language models to ensure reliability of the patterns. **Results:** Using these criteria, 2.6 million notes were identified for inclusion. Of these, 107,503 notes had at least one adverse effect mentioned in the same sentence or within seven words of the SSRI mention. A total of 37,839 adverse effects were extracted from 34,577 notes. Common adverse effects mentioned in the notes were weight gain, nausea, fatigue, sexual side effects, diarrhea, insomnia, headache, agitation, and suicidal thoughts. **Conclusions:** Common side effects related to SSRIs can be extracted from clinical notes using a natural language processing-based approach. The approach used in this study is a reproducible model for efficiently extracting concepts related to depression from unstructured clinical notes.

#### No. 26

##### **Effects of the Pandemic on Rating Scales**

*Poster Presenter: Suhayl Joseph Nasr, M.D.*

*Co-Author: Burdette Wendt*

##### **SUMMARY:**

**Introduction:** The COVID pandemic adversely impacted the mental health of the country. We compared the change in depression symptoms before and after the onset of the pandemic in our clinic using standardized screening forms. **Methods:** All patients at a rural outpatient psychiatric clinic were given a series of prerequisite screening tests to take online prior to their first visit with a psychiatrist. The tests included among others the PHQ-9 depression screening, the SCL-90, and a psychosocial history. Patients also complete the PHQ-9 at every visit. A retrospective chart review was performed on all patients seen since 2017. **Results:** A total of 440

patients completed the intake screening, 309 before the start of COVID, 131 after (post March 2020). Patients starting treatment after the start of COVID were slightly younger (41 vs 45) and a smaller percentage were female (55% vs 63%). Patients reported more severe symptoms on their intake screenings in the time of COVID. Obsessive-compulsive (1.71 vs 1.48,  $p < .03$ ), hostility (.94 vs .77,  $p < .04$ ), and psychoticism (.88 vs .74,  $p < .04$ ) were all significantly higher on the SCL-90, as were trouble concentrating (1.7 vs 1.4,  $p < .05$ ) and thoughts of suicide (.62 vs .42,  $p < .02$ ) on the PHQ-9. On the psychosocial history, there was an increase in patients listing memory and suicidal thoughts as a presenting issue, along with an increase in them describing their current state as forgetful and unassertive. Despite patients reporting more serious symptoms at intake, patients who started treatment after the start of COVID had lower PHQ-9 scores during their first year (9.5 vs. 10.2). The symptoms that were significantly lower were energy (1.2 vs 1.6) and appetite/eating (.8 vs 1.2). The symptom of sadness did remain higher (1.5 vs 1.3) Among patients who had already started treatment before COVID, their average scores showed a significant improvement. The total score for these patients averaged 9.9 across all visits prior to March 2020, compared to 6.3 after ( $p < .001$ ). All individual symptoms showed a significant improvement. **Conclusion:** The COVID pandemic affected the severity and response to treatment in depressed outpatients. Several factors including psychosocial support may have contributed to the improved outcomes during COVID. They will be discussed.

#### **No. 27**

##### **Medication Change Decision: Add, Stop, or Same?**

*Poster Presenter: Suhayl Joseph Nasr, M.D.*

*Co-Author: Burdette Wendt*

##### **SUMMARY:**

**Introduction:** With increased frequency of treatment resistance with antidepressants, the clinician is faced with several choices. Following is a large sample retrospective report on various decisions by the same clinician. **Methods:** Every new patient to the clinic completes a series of online screenings as a prerequisite for the first office visit with the

psychiatrist. The PHQ-9 depression screening was given before every office visit. A chart review of 3800 visits of unipolar depressed patients over 10 years was conducted **Results:** Adding a new medication improved PHQ-9 scores (2.3 point improvement) more than adjusting dosages (0.4), or removing medications (0.03 worse). For those more severely depressed with a PHQ-9 score of 15 or higher, adding a new stimulant also showed more improvement (5.7 points better), compared to adjusting dosing (3.96) or stopping a medication (5.0). The best improvement of scores was associated with the addition of stimulants (3.3 point improvement), followed by SNRI's (3.1), SSRI's (2.9), antipsychotics (2.5) and bupropion (1.7) **Conclusions:** Adding a stimulant achieved the best results for the more severely depressed patients

#### **No. 28**

##### **Relatively Low Rates of Depression, Anxiety and Posttraumatic Stress Disorder Symptoms at Hospital Discharge in Peruvian COVID-19 Survivors**

*Poster Presenter: Anderson Nelver Elias Soriano Moreno*

*Co-Authors: Elaine Catherine Flores Ramos, Alan Wenceslao Wenceslao Quispe Sancho, Carolyn J. Reuland*

##### **SUMMARY:**

**Introduction:** Mental health conditions in hospitalized COVID-19 survivors are frequent but the timing of their onset and triggers remain unclear. We studied mental health status at discharge in survivors who were hospitalized for severe COVID-19 pneumonia in Lima, Peru, as the baseline of an intervention with longitudinal assessments. **Methods:** The population consisted of survivors of hospitalization by COVID-19 pneumonia who required a high flow of oxygen ( $>6$  liters/min.) and without psychological disorders at hospital admission at a public hospital in Lima, Peru. We assessed depression, anxiety, and post-traumatic stress disorder (PTSD) symptoms using Patient Health Questionnaire (PHQ-9)  $> 4$ , the Generalized Anxiety Disorder questionnaire (GAD-7)  $> 5$ , and the Impact Event Scale-Revised version (IES-R)  $> 24$  cuts off points, respectively. We determined the prevalence of mental health alterations and

evaluated factors associated with depression, anxiety, and PTSD using multiple logistic regression. **Results:** We analyzed data for 103 COVID-19 survivors (mean age 47.7, 70.9% male). The prevalence of depression, anxiety, and PTSD at discharge was 22.3%, 19.4%, and 5.8%, respectively. One-third of patients presented “little interest/pleasure in doing things”, “feeling tired/with low energy”, or “feeling down/depressed/hopeless” in the PQH-9. 57% of participants reported feeling nervous or not being able to stop worrying in the GAD-7 questionnaire. Symptoms related to avoidance and hyperarousal were the most frequently reported on the IES-R questionnaire. Items related to sleep disturbances were also frequently affected in both the IES-R and the PHQ-9. Thirty percent reported that some or most days they “had trouble falling or staying asleep” in the IES-R. 56% reported “trouble falling asleep” in the PHQ-9. Severe pneumonia was independently associated with depression (OR=4.1, 95% CI=1.4-13.2). Being single was also associated with anxiety (OR=2.9, 95% CI=1.0-9.0). Participants with prior diagnoses of diabetes or systemic hypertension presented two and three-times higher prevalence of depression/anxiety and PTSD, respectively. **Conclusion:** Compared to other studies performed weeks after the hospital discharge, we found evidence that depression, anxiety, and post-traumatic stress disorder symptoms may be uncommon at discharge. These disorders may appear later as optimism after discharge dwindles and survivors are confronted with new realities of harsh living conditions and lack of access to rehabilitation services. Close monitoring post-discharge is crucial to evaluate for deterioration of mental health. Psychological interventions at discharge may help to mitigate the development of these disorders. Further studies are needed to corroborate these findings.

## No. 29

### **Transcutaneous Auricular Vagus Nerve Stimulation (aVNS) for Major Depressive Disorder (MDD) With Peripartum Onset: Multicenter, Open-Label Pilot Study**

*Poster Presenter: Kristina M. Deligiannidis, M.D.*

*Co-Authors: Thalia Robakis, M.D., Ph.D., Sarah C. Homitsky, M.D., Shane Raines, M.S., Konstantinos Alataris, Ph.D.*

#### **SUMMARY:**

**Background:** Peripartum depression (PPD) has a high prevalence in the U.S. (~13%) and often goes untreated/undertreated, in part due to stigma or perceived risks from pharmacological treatments. Although invasive vagus nerve stimulation (VNS) is FDA-approved for treatment-resistant depression, it carries the risks of surgery and stimulation of the efferent fibers of the vagus nerve. Nesos recently developed a novel home-based, wearable, non-invasive aVNS device. We conducted a multicenter, open-label, pilot clinical trial to assess efficacy and safety of the Nesos aVNS system in the outpatient treatment of adult females with PPD. **Methods:** Women (n=25), ages 18–45, within 9 months postpartum, diagnosed with MDD with peripartum onset were enrolled at 3 sites. The study included 6 weeks of active aVNS (15 minutes/day) and two weeks of observation (no treatment; Weeks 7 and 8). The primary endpoint was the Week 6 change from baseline (CFB) in Hamilton Rating Scale for Depression (HAM-D17) total score. Secondary measures included depression response (=50% reduction in HAM-D17 total score) and remission (HAM-D17 total score =7); CFB in Hamilton Anxiety Rating Scale (HAM-A), Edinburgh Postnatal Depression Scale (EPDS), and Generalized Anxiety Disorder Scale (GAD-7) total scores; and patient and clinician global impression of change (PGIC, CGIC) scores. Efficacy outcomes were analyzed using mixed-effects models for repeated measures and descriptive statistics. Safety and tolerability were assessed by adverse event (AE) reports. **Results:** At baseline, mean (SD) age was 33.8 (3.81) years and mean (SD) HAM-D17 was 18.4 (5.3). For the 23 participants with data available at Week 6, least squares (LS) mean (standard error [SE]) CFB in HAM-D17 was -9.7 (0.87), with 74% of women achieving response and 61% achieving remission. LS mean (SE) change from baseline at Week 6 in secondary outcome measures were -7.6 (0.88) for HAM-A, -6.6 (0.48) for GAD-7, and -7.9 (0.75) for EPDS. Of participants with PGIC/CGIC/satisfaction data available at Week 6, at least some improvement in condition was reported by 21/22 (95%) clinicians on

CGIC and 22/23 (96%) participants on PGIC; 20/23 (87%) participants reported device satisfaction. At Week 8 (n=24), observed improvements persisted: LS mean (SE) CFB was -10.8 (0.72) for HAM-D17; 83% of women achieved response and 67% achieved remission; and LS mean (SE) CFB was -8.6 (0.69) for HAM-A, -6.0 (0.68) for GAD-7, and -8.9 (0.76) for EPDS. The most common AEs (=5%) were pain/discomfort (n=5), headache (n=3), and dizziness (n=2). All events resolved without intervention. No serious AEs or deaths occurred. **Conclusion:** While further evaluation in larger sham-controlled studies is needed, results from this open-label proof of concept study suggest that the Nesos aVNS system is well tolerated in postpartum women and may be an effective non-invasive, nonpharmacological treatment option for MDD with peripartum onset.

### No. 30

#### **Mental Health and Its Relationship to Economic Stability, Education, Health and Treatment Facilities: A State-Level Analysis**

*Poster Presenter: Sabrina Gaiazov, M.P.H.*

*Co-Authors: William Mullen, M.P.H., P.A., Josephine Hofstetter, Ph.D., Christian Heidbreder, Ph.D.*

#### **SUMMARY:**

Background: Poor mental health is frequently associated with socioeconomic risk factors, a combination that increases the risk for morbidity<sup>1</sup>. Although genetics play a role in susceptibility, disparities associated with social determinants of health (SDOH) can be substantial in triggering poor mental health<sup>2,3</sup>. Smaller studies previously investigated the potential impact of SDOH<sup>4,5,6</sup> but not many large-scale, state-level studies exist for identifying these predictors of mental health. Objectives: The objective of this study was to assess the relationship between mental health and the following: economic stability, education, health, and treatment facilities. Methods: In this retrospective cross-sectional study, databases from American Community Survey, Centers for Disease Control and Prevention (CDC), Substance Abuse and Mental Health Services Administration and Symphony Data were used by the Forte Analytics Organization to collect aggregate data from 2018 to 2020 from all 50 states and the District of Columbia. Pearson's

correlation was used to test the association between poor mental health and SDOH including education (% with bachelor's degree), poverty (% below poverty level), poor physical health, Food stamps/SNAP (Supplemental Nutrition Assistance Program) Benefits, internet access, incarceration, and available certified substance abuse treatment centers. Poor mental health was indicated for those who reported their mental health was not good during =14 of the past 30 days<sup>7</sup>. Results: Poor mental health was strongly correlated with poverty (r: 0.77, p: 0.02), poor physical health (r: 0.88, p: <0.001), no internet access (r: 0.69, p: 0.02), and moderately correlated with being incarcerated (r: 0.63, p: <0.001) or receiving food stamps (r: 0.63, p: <0.001). There was a strong inverse relationship between poor mental health and education (r: -0.77, p: <0.001), indicating the higher the percentage of people with bachelor's degree, the lower the percentage of poor mental health. Distribution of available treatment centers was not correlated with poor mental health (-0.07). Conclusion: Given the public health impact of poor mental health, the need for identifying populations that are most susceptible remains crucial. Poor mental health was associated with higher levels of poverty, poor physical health, lack of education, lack of internet access, food stamps and incarceration. The distribution of treatment centers in states was largely unaffected by rate of poor mental health in the population. Lack of supportive infrastructure, such as treatment centers or internet for telehealth services, could potentially hinder healthcare access. More research is needed to understand the disparities in populations struggling with mental health to generate effective strategies for expanding access to care for those who need it the most.

### No. 31

#### **The Gender and Racial Representation Gap in Psychiatry**

*Poster Presenter: Dara Nafiu*

*Co-Authors: Bradley Kaptur, Nicholas Peterman, Iqou Nafiu*

#### **SUMMARY:**

Introduction: Racial and gender representation is critical in psychiatry to properly serve patients in

highly diverse areas. There have been several studies in recent years identifying the advantage of a diverse workforce but no significant research into national trends in representation. This study aims to identify the county-level hotspots and coldspots in diversity in practicing psychiatrists and the socioeconomic attributes of the communities they serve. **Methods:** The full name, location, and gender of 10,702 Psychiatrists were identified in the NPPES NPI registry. Ethnicolr, a name-to-race prediction software, was used to classify race. This data was combined on a county level with socioeconomic metrics for years 2015-2019 from the US Census Bureau. A Gender and Racial Diversity Index (GRDI) was created identifying the odds, scaled from 0 -100 with 100 being the most diverse, that any two chosen physicians in a county would be of a different race or gender. Geoda was utilized to identify statistically significant ( $p < 0.05$ ) hotspots and coldspots of GRDI, and ANOVA was conducted across 70 socioeconomic variables for the 1255 counties that contained psychiatrists. **Results:** Nationally, female, Black, Asian, Hispanic, and white people represent 41.2, 4.5, 16.2, 8.8, and 70.6 percent of Psychiatrists, respectively. This diversity was not equally distributed, with hotspots averaging 69.06 +/- 10.02 GRDI located in Florida, the Mid-Atlantic region, the southern border of California, and around San Francisco. Coldspot counties (average 5.03 +/- 12.2 GRDI) were in Bible Belt states from Georgia to Oklahoma, and in Iowa and Nebraska. Some of the dozens of statistically significant differences between hotspot and coldspot counties include population density (2,396.81 to 98.13 people per square mile), psychiatrists per 10k people (0.81 to 0.96), % white (74.17 to 83.34), % poverty (11.1 to 15.71), % white physician (63.00 to 77.22), % Black physician (3.71 to 9.88), % Asian physician (21.4 to 11.11), % Hispanic physician (11.88 to 1.79), % female physician (39.91 to 27.49), and female representation gap (-11.13 to -22.72). No significant differences were noted in racial representation gaps. **Discussion:** Black physicians were universally underrepresented across America and, unlike all other demographic groups, were surprisingly more underrepresented in high overall GRDI counties. High GRDI counties, despite relatively high physician diversity, had no significant change in overall racial representation gap between the physicians and the

counties they serve. Taken in context, this data shows that even high diversity psychiatry groups have a long way to go in order to resemble their patient population. **Conclusion:** The racial and gender gap in psychiatry was not only identified--but quantified on a national scale. This study can be used to identify areas of the country for diversity outreach that would have the largest impact on both a national and local level.

### **No. 32**

#### **Students of Color Score Lower on Exams and Experience More Burnout, Less Peer-Support, and Tempered Personal Academic Performance Expectations**

*Poster Presenter: Jordan M. Dobrich, M.B.A.*

*Co-Author: Lingchen Wang*

#### **SUMMARY:**

**Background:** Ethnic minority medical students have negative experiences in medical school that influence their education.<sup>1</sup> Black students in particular experience a greater extent of burnout when compared to their peers.<sup>2</sup> People of color may experience less peer support in medical school as well. There is a connection between low peer social support and poor academic self-perception.<sup>3</sup> Diminished self-perception and self-doubt negatively affect clinicians at all stages of their careers.<sup>4</sup> Factors of burnout, peer support, and personal expectations for academic performance in medical school may have greater effects on the academic performance of students of color when compared to white students. **Methods:** A survey was provided to new first-year medical students within the 2025 graduating class during their orientation. Students were specifically asked to utilize a 5-point Likert scale to answer the following questions: "I feel supported by my classmates"; and "I am never burned out with school". Expected grade ranges using a 100% scale for the upcoming academic year were also requested. In the survey, students disclosed their race. Survey results were separated into two groups, white (W) and students of color (SOC). Surveys were anonymous aside from student identifiers (SIDs). All survey respondents' exam scores for the first three medical school examinations were tracked using SIDs. Exam scores



and survey responses were matched and analyzed. **Results:** 91.5% (n=64; W=32, SOC=32) of the cohort responded to the survey. Univariable linear regression determined the relationship between the expected grade range (increments of 10% starting at 60%), their perceived peer support, and feelings of burnout for the two groups (W, SOC). Univariable linear regression and t-test were used to compare the average exam scores (percentile scores out of 100%) between groups. Survey results revealed the SOC group experiences significantly lower peer support (p=0.005), significantly higher burnout associated with medical school (p=0.049), and lower expectations for exam scores which were deemed marginally statistically significant (p=0.051). Average exam scores for the SOC group for exams 1, 2, and 3 were 2.805, 4.548, and 4.815 points lower, respectively (CI=95%, p=0.156, 0.077, 0.012, respectively). **Conclusion:** For exam 3, W performed better than SOC. For exam 1 and exam 2, although the differences were not statistically significant, the average scores of W were all higher than the scores of SOC. The reported and measured differences between feelings of support, burnout, and academic expectations between these two survey groups may explain the gap in exam averages. Further research exploring direct correlations between these factors and academic performance by utilizing a larger sample size would further support medical students of color experiencing greater hardships and lower academic performance while in medical school.

### No. 33

#### **How Does Insurance Status Affect Readmission Rates in Psychiatric Hospitals?**

*Poster Presenter: Rylan Nicolas Ciccarello, M.D.*

*Co-Author: France M. Leandre, M.D.*

#### **SUMMARY:**

**Background:** According to the census in 2020, 8.6% or 28 million Americans were uninsured at any point during the year (Keisler-Starkey & Bunch, 2021). Most Americans (66.5%), were insured by public insurance with 54.4% of them obtaining coverage through their employers (Keisler-Starkey & Bunch, 2021). Furthermore, one in five adults in the USA live with a mental illness. With healthcare costs continuing to rise in America, many are left without

the necessary resources to follow up in an outpatient clinic or fill their medications, placing their communities at risk while patients eventually require hospitalization and treatment. **Methods:** To further investigate if a disparity exists between those with health insurance and those who do not, retrospective observational study reviewing electronic medical records of patients in the context of insurance statistics was conducted at the North Florida Regional Medical Center psychiatric unit gathering data from 2019 with 1196 observations. General linear and multinomial logistic regressions were concluded based on our criteria as well as frequency of admission. The data shows that there is a statistically significant difference in the rates of hospital readmission in those who are uninsured, have Medicare/Medicaid, or private insurance. **Results:** Patients with Medicare/Medicaid were 2.67 more likely to be readmitted than those with private insurance (CI 1.28-5.57) and patients who have no insurance were 2.35 more likely to be readmitted than patients with private insurance (CI 1.01-5.00). **Conclusion:** These differences can help healthcare professionals educate patients on resources available in their community to avoid severe crises that required inpatient readmission and treatment. This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.

### No. 34

#### **Psychological Resilience in Adults With Sickle Cell Disease in the U.S.**

*Poster Presenter: Corinne April Conn*

#### **SUMMARY:**

**Background:** Sickle cell disease (SCD) is caused by a single point mutation in the sixth codon of the  $\beta$ -globin gene, resulting in abnormal hemoglobin  $\beta$ -globin subunits. The mutation produces red blood cells that are sickle-shaped and impaired in their function, producing a range of serious health complications, characterizing SCD with intermittent pain crises. SCD symptoms have serious implications for both mental and physical health, where

psychological forms of stress have been associated to increased pain. Resilience research has emerged as an area of study where scientists have attempted to capture and measure this phenomenon, to better understand its effects and its potential to improve patient health outcomes. Limited research exists examining resilience within the context of adults living with SCD. **Objectives:** This study examines psychological resilience in adults living with SCD in the U.S., aiming to explore how psychological resilience is defined by this community. **Methods:** Participants were recruited between 2014 – 2018, from across the U.S. as part of an ongoing cross-sectional study: Insights into Microbiome and Environmental Contributions to Sickle Cell Disease and Leg Ulcers Study (INSIGHTS). Inclusion criteria included age of 18 or older, with a clinical history of SCD, and were interviewed if they completed the Brief Resilience Scale (BRS) as part of INSIGHTS. 150 study participants were separated by their BRS scores into “High” and “Low” scoring quartiles. 30 participants were randomly selected, 15 from the lowest quartile and 15 from the highest, and were administered an open-ended qualitative interview. All participants also completed the Connor Davidson Resilience (CD) measure. Participants identified as Black with an average age of 42.5 (13 F, 17 M). **Results:** The High BRS scoring group scored above the mean CD score for the US general population, while the Low BRS scoring group scored above the mean score for primary care patients, psychiatric outpatients, and patients with Generalized Anxiety. Three main concepts emerged within both groups in response to the question “How do you define resilience?” (a) not giving up (b) how one deals with challenges and (c) moving forward. **Conclusion:** This study suggests that the definitions of resilience used in validated survey measures do not match how adults living with SCD understand their own resilience. The definitions shared by individuals living with SCD expand the understanding of resilience as a dynamic process, less about “bouncing back” in any particular amount of time, and more about the process of “not giving up.” These findings suggest that mental care providers may find it productive to facilitate conversations with adults living with SCD around “how” they move forward through stressors. Further research is needed to examine the association of measures like the BRS and CD to other

measures of disease severity in the lives of adults with SCD. Funding is from Intramural NIH HHS.

### No. 35

#### **Power of Self: Implementation of an Identity-Driven Resident Curriculum to Build Capacity for Equitable Psychiatric Care**

*Poster Presenter: Harjit Kaur, M.D.*

*Co-Authors: Rana Jawish, M.D., Kristen Durbin, Paul J. Carlson, M.D.*

#### **SUMMARY:**

As the field of psychiatry continues to strengthen its educational foundation in neurobiology, there is a parallel need for education in the psychosocial factors that directly relate to disorders in mental health. In addition, there is the ongoing need to understand existing healthcare disparities to achieve health equity on a national level. The Psychiatry Inclusion Committee (PIC), a joint collaboration of residents and faculty within the University of Utah School of Medicine Psychiatry training programs, was created in response to the crucial need for educational development and departmental antiracism efforts. PIC resident leaders created a four-part workshop for PGY1-PGY4 trainees, to address the impact oppressive systems have on patients and their mental health. The curriculum holds the foundational principle that identity is an integral part of the therapeutic alliance that is built between a patient and provider. The four workshops focus on the following learning objectives: (1) Understanding concepts of identity and its imperative role in psychosocial determinants of health; (2) Reviewing the history of psychiatry through multiple lenses, including systemic racism, sexism, and ableism; (3) Introducing Structural competency as a framework for patient care, advocacy, and patient-provider wellbeing; and (4) Utilization of identity and structurally informed care in all aspects of patient care, including diagnostic interviewing, formulation of diagnoses, and collaborative treatment. The goal of this curriculum is to educate and empower psychiatric residents by encouraging self-understanding and strengthening empathy to foster therapeutic interactions with patients. Authors propose that these curricular interventions will better equip trainee psychiatrists

to facilitate these complex interactions to deliver an equitable model of psychiatric care that emphasizes the power of structural and psychosocial factors in shaping patients' lives. These workshops are implemented during the academic year 2021-2022, with measurement of effectiveness via pre- and post-participation surveys evaluating participant knowledge and understanding of the aforementioned concepts.

#### **No. 36**

##### **Which Demographics Factors Play a Role in Readmission Rates in Psychiatric Hospitals?**

*Poster Presenter: Fatimah Abdul Hameed, M.D., M.Sc.*

#### **SUMMARY:**

**Background:** According to the CDC, 1 in 5 Americans will undergo a mental illness in a given year. With the increased vigilance for mental illness in the last decade leading to an innumerable amount of hospital admissions, recent data suggests that the rate of hospitalizations for mental disorders has surpassed any other hospitalization (1). Modern advances in psychiatric treatment, both pharmacological and psychological, have pushed for deinstitutionalization leading to a decrease in long term psychiatric hospitalizations. Consequently these shortened hospitalizations have resulted in an increase in the number of readmissions after discharge (2). Current mental health care goals focus on recovery-oriented outcomes, yet more frequent readmissions disrupt the ability for patients to integrate with long term stability outside of the inpatient psychiatric setting. The aim of this current study is to explore risk factors and demographics associated with psychiatric readmission rates in an attempt to further minimize socioeconomic, racial, age and gender disparities in mental health care.

**Methods:** A retrospective observational study reviewing electronic medical records of patients in the context of readmission rates with relation to associated risk factors of demographics including disease, age, treatment, readmission frequency, length of stay, was conducted at the North Florida Regional Medical Center psychiatric unit gathering data in 2019 with 1196 observations. General linear and multinomial logistic regressions were concluded

based on our criteria as well as frequency of admission. **Results:** Our findings suggest that older patients are associated with a statistically significant higher number of readmissions within three months (CI: 1.005-1.025). African Americans have a 2.047 higher chance of readmission in 3 months or more compared to those who are white (CI: 1.249-3.353). Females had a 1.580 times of readmission in 3 months or more compared to males (CI: 1.023-2.441). **Conclusion:** Overall, there appears to be a statistically significant relationship between increased psychiatric hospital readmission rates and several key demographics, including older age, African-American race, and female gender. Readmissions can cause an economic and familial burden, as well as displaced dependency on inpatient services. By understanding the associated factors with hospital readmission rates, we as providers can help elucidate and prevent readmissions and frequent hospitalization stays by providing additional education to at-risk populations. This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.

#### **No. 37**

##### **Implementing Structural Competency Education in Psychiatry Residency Training**

*Poster Presenter: Sahana Malik, M.D.*

*Co-Authors: Elizabeth ZoBell, Eric Rafja-Yuan, M.D.*

#### **SUMMARY:**

**Background:** Structural competency is a curricular competency in medical education which focuses on developing trainees' understanding and ability to link upstream policy and structural decisions with downstream diseases, symptoms and attitudes. It derives from five core competencies: recognizing the structures that shape clinical interactions; developing an extra-clinical language of structure; rearticulating "cultural" presentations in structural terms; observing and imagining structural intervention; and developing structural humility. Curricular interventions targeting these five core competencies are needed for physicians to optimize

patient outcomes and navigate the systemic challenges facing our patients and profession. Methods: Surveys were completed by 39 medical students, psychiatry residents, and psychiatry attendings before and after a grand rounds presentation on structural competency. Participants were surveyed for familiarity with core competencies of structural competency, the utility of these concepts in their clinical practice, and if more education on structural competency would benefit their ability to care for patients. Results: All surveyed measures increased after an education session on structural competency. Prior to the presentation 23% of participants were familiar with structural competency, increasing to 100% afterwards. In pretest surveys, 54% of participants believed structural competency would allow them to deliver better patient care, and increased to 97% afterwards. Finally, prior to the presentation 51% of participants believed more attention should be given to these topics in medical education, increasing to 95% after the intervention. Conclusion: In this sample, targeted curricular interventions were effective in increasing participants' understanding of foundational principles of patient care. Additionally, participants felt that these skills were clinically relevant and wished to have further training in these domains. These results align with other studies indicating a growing awareness of the need for structural competency based curriculum and interventions in medical education. In order to develop trainees capable of providing effective clinical care, psychiatry departments and residency program directors should ensure that their education offerings include principles of structural competency.

**No. 38**  
**Health Care Perceptions and Experiences of Black Adults in Appalachia.**

*Poster Presenter: Nneka Nwosisi*

**SUMMARY:**

**Introduction:** Rural communities tend to have higher morbidity and mortality rates than urban communities; however, the differences between racial and ethnic minority groups in rural areas has not always been highlighted. It is particularly

alarming that the top 5 leading causes of death in the U.S are more prevalent in rural communities. Rural residents are more prone to living in poverty, and lacking health care access. They are more likely to have high levels of distress, poor health habits, environmental hazards, financial barriers to get care and less formal education. Rural residents receive less preventive care services than their urban counterparts. Unfortunately, counties with majority of Black Americans have a higher premature mortality rate than counties with majority of White residents regardless of the state or region. Throughout America, Black individuals face many systematic obstacles, and unfortunately, the health care system is not an exception. To understand why the Black community is disproportionately impacted by health care disparities, it is critical to understand the history of abuse and discrimination in American medicine. Black people often deal with experiences and expectations of racism, which can lead to distrust and eventually, avoidance of care. So, what does this mean for Black rural communities?

**Methods:** To answer this question, this study was conducted to understand the health care perceptions and experiences of Black adults in Appalachia. The semi-structured interview guide consisted of 3 parts: demographics, personal experiences with health care and perception of health care within the Black community. Inductive analysis of the interviews was used to identify emergent themes. **Results:** Participants expressed what qualities would increase their trust in physicians and perceived barriers that limit the Black rural community from seeking healthcare services. Some of the sort after qualities in a physician that emerged from the discussions included: culture competence, longevity of service, information delivery skills, respect, involvement in decision making and empathy. Participants mentioned barriers to health care that includes: the normalcy of enduring hardships and pain, role of faith and religion, fear of being stigmatized, fear of bad news, family beliefs and other traditional barriers such as financial reasons or lack of transportation. Participants also shared culturally acceptable approaches and strategies that might increase access to health care in rural African American communities. **Conclusion:** Overall, Black rural adults encounter many barriers to accessing much needed

healthcare services. Creating a platform where adults can openly express their perceptions of being Black in Appalachia can help identify factors that may motivate rural Black individuals to regularly seek health care.

### No. 39

#### **Dexmedetomidine Orally Dissolving Film: Post Hoc Analysis of PANSS-Excited Component Items in Acute Agitation With Schizophrenia or Bipolar Disorder**

*Poster Presenter: Fred McCall, Ph.D., M.B.A.*

*Lead Author: Sheldon Preskorn, M.D.*

*Co-Authors: Robert Risinger, M.D., Heather Robison, M.P.P., Lavanya Rajachandran, Ph.D.*

#### **SUMMARY:**

**BACKGROUND:** Episodes of acute agitation associated with schizophrenia or bipolar disorder<sup>1</sup> are often encountered in emergency and inpatient settings.<sup>2</sup> Medical treatment includes both de-escalation techniques and injectable antipsychotics or benzodiazepines.<sup>3</sup> Dexmedetomidine is a highly selective alpha-2a receptor agonist that is being developed in an oral dissolving film (ODF) for sublingual or buccal administration to treat acute agitation associated with schizophrenia or bipolar disorder in adults. **METHODS:** Two phase 3, randomized, placebo-controlled studies were conducted with adults diagnosed with schizophrenia, schizoaffective or schizopreniform disorder (Serenity 1) or bipolar I or II disorder (Serenity 2). Eligible patients had a total score of <sup>3</sup>14 on the 5 items of the PANSS-Excited Component (PEC) scale and a score <sup>3</sup>4 on at least 1 of the 5 PEC items (poor impulse control, tension, hostility, uncooperativeness, excitement) at baseline. Patients were randomized to dexmedetomidine ODF 120 mcg, 180 mcg or placebo. The primary endpoint was mean change from baseline in the PEC total score at 2 hours. This post hoc analysis used pooled data from the 2 clinical trials to assess the efficacy of dexmedetomidine ODF by change from baseline in individual PEC component items. 380 participants in Serenity 1 (schizophrenia) and 378 in Serenity 2 (bipolar) received at least 1 dose of study drug. Baseline agitation was mild to moderate (mean PEC scores 18.0 (bipolar trial) and 17.6 (schizophrenia

trial). Both doses of dexmedetomidine ODF were more effective than placebo on the primary endpoint and improvements began as early as 20 minutes in the 180 mcg dose group. Two-hour change from baseline in individual PEC items was significantly higher for both dexmedetomidine ODF dose groups compared to placebo ( $P < 0.001$ ). The largest decreases in both doses were in the tension and excitement items. Across the 5 PEC items, decrease from baseline ranged from 1.7 to 2.6 in the 180 mcg group and 1.5 to 2.1 in the 120 mcg group, compared to 0.8 to 1.1 with placebo. With 180 mcg, change from baseline relative to placebo was statistically significant ( $P < 0.05$ ) as early as 10 minutes for Poor Impulse Control, Tension, and Hostility and as early as 20 minutes for Uncooperative and Excitement. There were no serious or severe drug-related AEs in either study. The most common AEs with dexmedetomidine ODF 180 mcg and 120 mcg were somnolence (22.2%, 21.2%), dry mouth (4.4%, 7.5%), dizziness (6.0%, 3.9%), hypotension (5.2%, 5.5%), and orthostatic hypotension (5.2%, 2.7%). **CONCLUSION:** Dexmedetomidine orally dissolving film (ODF) is an investigational formulation being developed for the treatment of acute agitation associated with schizophrenia and bipolar disorder. In this post hoc analysis of data from 2 phase 3 clinical trials, 180 mcg of dexmedetomidine ODF was effective in reducing individual PEC component scores as early as 20 minutes postdose.

### No. 40

#### **Ethical Considerations for Using Big Data to Explore Inequities in Violence Risk Assessments in Mental Health Care**

*Poster Presenter: Katrina Hui, M.D., M.S.*

*Co-Authors: Daniel Buchman, Marta Maslej, Laura Sikstrom, Dominic Sisti*

#### **SUMMARY:**

Early research has demonstrated how artificial intelligence (AI) models can predict aggression from sources of Big Data, such as electronic medical records.<sup>1</sup> However, there is concern that AI tools are trained on biased datasets and amplify existing inequities.<sup>2</sup> Discrepancies in AI model performance have been found in psychiatric settings, with poorer

performance in marginalized groups.<sup>3</sup> Thus, it is crucial to evaluate Big Data for bias, before AI models are further developed. In many psychiatric emergency departments (EDs), violence risk assessments are routinely done to inform care and the use of restraints. Black patients are more frequently brought into the ED by police and restrained as inpatients,<sup>4</sup> but it remains unclear to what extent police involvement and demographic factors may bias these risk assessments. Furthermore, there is limited data about the lived experience of and ethical concerns about risk assessments and AI applications from clinicians and patients in a mental health context. We review unstructured and structured risk assessment data from electronic medical records including clinical notes and risk assessment scores to identify biases. We augment this analysis with qualitative interviews with clinicians and patients to contextualize involuntary admission, the lived experience of the ED, and perceptions of AI applications of mental health data. These findings inform strategies to build fairer predictive models and decrease inequities in care, including discussions about ethical considerations for potential uses of AI in psychiatry for marginalized populations

#### **No. 41**

##### **“I’m Still Trying to Figure Out What It Is to Be a Man” - How Masculinities Impact Barriers and Facilitators to Depression Care Among Latino Men**

*Poster Presenter: Nathan Aaron Swetlitz*

*Co-Authors: Mishen Liu, B.A., Morgan Rivera, B.A., Anna Claire Fernandez*

#### **SUMMARY:**

**Background:** Increasing evidence suggests that men are underdiagnosed with and undertreated for depression compared to women, despite a higher risk of dying by suicide. Greater subscription to hegemonic masculinities—the ways of being a man that are most culturally dominant—is associated with increased depression severity, decreased likelihood of help-seeking, heightened stigma, and lower rates of provider recognition. Additionally, Latino men often receive inadequate depression care and are underrepresented in research. The objective of this study was to examine how

masculinities create and shape barriers and facilitators to depression care among Latino men in the Bay Area. **Methods:** We recruited primary care patients who self-identified as Latino men, spoke English or Spanish, and screened positive for depressive symptoms on the PHQ-2 or had a history of depression. Semi-structured interviews in English and Spanish were conducted between December 2020 and August 2021, transcribed, coded using thematic analysis, organized into barriers and facilitators, and placed within domains. **Results:** Thirteen participants were interviewed. They varied in language (10 were interviewed in English, 3 in Spanish), education level, income, country of origin, and sexuality. Six barriers and 6 facilitators were placed within 3 domains—Self-Recognition of Depression, Seeking Help for Depression, and Depression Treatment. Men described components of masculinities as barriers to depression care (e.g. emotional control and pressure to provide), facilitators (e.g. honesty, courage, collaboration, practicality, and responsibility), or both (e.g. self-reliance and autonomy). Our participants characterized masculinities as an important factor that created and shaped both barriers and facilitators to depression care. Participants described masculinities as a malleable set of dynamic constructs, some of which shape barriers, facilitators, and occasionally both in the context of depression care. **Conclusion:** To maximize Latino men’s engagement in depression care, we may need clinician education and training as well as changes to structural barriers to minimize barriers and maximize facilitators impacted by masculinities. We recommend developing a genderful approach that providers can utilize with men who present with depressive symptoms: acknowledging and engaging with the ways that masculinities functions as a social determinant of depression, shaping recognition of, seeking help, and engaging in treatment for depression.

#### **No. 42**

##### **Gender Identity Changes in a Transgender Older Adult With Dementia: A Case Report**

*Poster Presenter: Jeremiah Joyce, M.D., M.S.*

*Co-Authors: Janette C. Leal, M.D., Maria Isabel Lapid, M.D.*

**SUMMARY:**

**Introduction:** Little is known about clinical trajectories in transgender individuals as they age and develop cognitive impairment or dementia. There are anecdotal reports that memory and cognitive impairment have an impact on gender identity. Healthcare disparities exist in older adults, and transgender older adults are especially vulnerable to discrimination given their unique social determinants of health. In this presentation we describe a case of a transgender adult who later in life developed cognitive impairment and reidentified with original gender assigned at birth. **Case Description:** M is a 69-year-old individual with depression and dementia hospitalized in a psychiatric unit following a suicide attempt with a self-inflicted gunshot wound. M identifies as a male, although has a history of gender dysphoria and identified as a transgender female for over 20 years up until 2 years prior to hospitalization. As a transgender she received hormonal therapy and underwent breast implantation. Throughout adult life she lived alone, had no romantic relationships, had no children, and struggled with recurrent depression and suicidality. In her later years she described ambivalence about switching back to being a male, being allowed to cross dress, and having her breasts removed; prominent themes in psychotherapy were pervasive loneliness and a strong desire for companionship. Relevant medical history includes cognitive impairment with onset around age 65 and progressive gradual decline; and prostate adenocarcinoma at age 67 treated with androgen deprivation therapy and radiation therapy. Around the time of prostate cancer diagnosis, M decided to switch back to being a male, changed his name, and stopped using female gender nouns. In the context of ongoing depression, declining cognitive function, continued struggles with urinary symptoms, and switching back to male gender, M experienced worsening of depression and attempted suicide with a gun. He required surgeries for gunshot wounds and after medical stabilization he was transferred to the psychiatric unit for further psychiatric management. In the psychiatric unit he was noted to be confused, disoriented, cognitively impaired, with poor physical functioning and needing assistance with ADLs. Inpatient psychiatric management focused on ensuring safety, managing

impulsive behaviors, and post-hospital transition to a memory care facility. **Discussion:** This case illustrates important clinical aspects of gender identity reversal in an older transgender who developed dementia and raises interesting questions on how to optimally care for such underrepresented individuals. It is critical to highlight disparities in this population and create management strategies to effectively address psychiatric, medical, biologic, psychosocial and environmental challenges to reduce inequities. Clinicians need to provide the care needed by older transgender individuals regardless of gender identity or cognitive status.

**No. 43****Prevalence of Mental Health Problems Among Sexual Orientation Minority Individuals in Taiwan: A Respondent-Driven Sampling Study**

*Poster Presenter: Kai-Yuan Cheng*

*Co-Author: Louise Marston*

**SUMMARY:**

**Background:** Sexual orientation minority (SOM) status has been associated with a number of adverse mental health outcomes. However, most evidence was generated from non-probability samples. So far, there have been no population-based prevalence estimates for mental health problems reported in the Taiwanese SOM population. This study used web-based respondent-driven sampling (webRDS), a novel recruitment method based on chain-referral, to obtain unbiased population estimates for the prevalence of mental health problems among the SOM population in Taiwan. **Methods:** Web-based survey was used for data collection. 22 initial participants were recruited to cover a wide range of demographic groups. Incentivized by monetary reward, the initial participants were asked to recruit up to five of his or her SOM acquaintances to participate in the study. The recruited participants were asked to serve as recruiters on the same terms. The recruitment process was recorded through a personal identification code created by the recruiter and given to their recruits. Data on the recruitment pattern and self-reported social network size were used to estimate sampling probability and to generate estimates for population parameters. The demographic characteristics and prevalences of

multiple mental health problems were investigated. **Results:** A total sample of 323 SOM individuals responded to the survey, of which 162 (50.78%) were assigned female. The sample has a median age of 27-year-old; 94.40% had a college degree; 63.47% lived in the largest metropolitan area around the Taiwanese capital. Using the RDS II estimator, our study estimated a 29.05% prevalence of common mental disorder (based on the 12-item Chinese Health Questionnaire), a 27.47% prevalence of depressive disorder (based on the Center for Epidemiological Study Depression Scale), and a 32.19% prevalence of past-two-week self-harm or suicidal ideation among the Taiwanese non-heterosexual population. Convergence patterns suggest that equilibrium has been achieved for these prevalence estimates. **Conclusion:** Using a novel recruitment strategy, the current study provides important evidence about the mental health burden of the SOM population in Taiwan. Estimates are compared to those from population-based studies from other countries and non-probabilistic samples from Taiwan.

**No. 44**  
**Interdisciplinary Approach to Treating Psychiatric Concerns in Transgender and Gender Diverse Surgical Patients**

*Poster Presenter: Pooja Vyas, M.S.*

*Co-Authors: Mary Marsiglio, Ph.D., Amy Penkin, L.C.S.W., Asha Jetmalani, D.O.*

**SUMMARY:**

Anne (she/her) presents for surgical consultation for vaginoplasty with two letters of support from community therapists. Her letters only indicate a history of Gender Dysphoria and Major Depressive Disorder, despite a recent psychiatric hospitalization for Unspecified Psychosis. Anne has one family member who is supportive, no other friends, and lives in a temporary group home. The transgender health program interdisciplinary team recommends a referral to the psychologist and social worker to assess needs for perioperative planning. The psychologist's assessment reveals additional reported history of Dissociative Identity Disorder, complex trauma and self-harm related to delusional thoughts. The psychologist refers Anne to the

transgender health program psychiatrist for diagnostic clarification and medication recommendations, noting she hasn't seen a psychiatric provider since her hospitalization several months ago. The psychiatrist confirms a diagnosis of Gender Dysphoria, PTSD with dissociative symptoms, and unspecified psychosis with concern for possible schizoaffective disorder. While in the hospital, Olanzapine was initiated and led to resolution of her psychotic symptoms. She continued taking this medication after her hospitalization but now expresses an interest in discontinuing it. Through shared decision-making, she agrees to reduce the dose slightly in the interest of not destabilizing mental health leading up to her surgery and subsequent recovery. Her meeting with the social worker reveals she has moved multiple times, leading to various changes in insurance and disruption of continuity of mental health and primary care. The social worker is able to connect with Anne's health plan to help her re-establish primary care and community supports including ongoing therapy, medication management, and care coordination. While the social worker is facilitating access to longer term mental health services, Anne meets regularly with the staff psychologist and psychiatrist to establish continued stability. Now informed and supported by the mental healthcare team, the surgeon recommends vulvoplasty as a less invasive and lower risk option compared to vaginoplasty, without sacrificing Anne's goals to feel affirmed in her gender identity. To prepare for surgery and recovery, the social worker invites her family member and group home staff discuss their participation in postoperative recovery. She is also connected to a peer who offers her perspective and support. Surgery was performed without complication and symptoms of gender dysphoria resolved without physical or mental health complications. Her surgeon expresses appreciation for the mental healthcare team who made it possible for Anne to receive care when she otherwise may have been considered too risky of a surgical candidate.

**No. 45**  
**Environmental Justice and Mental Health**

*Poster Presenter: Mort E. Rubinstein, M.D.*



**SUMMARY:**

**Introduction:** Environmental noise is a quality-of-life issue. In addition, noise exposure or pollution may cause serious or long-term health damage, including mental health. Examples include sleep disorders, or childhood behavioral and stress disorders. Noise exposure has been found to be worse in resource-poor and residentially segregated neighborhoods, and among African American populations. To evaluate the issue of noise in relationship to socioeconomic factors, race and ethnicity, I reviewed the literature about the mental-health effects of noise pollution. **Methods:** I performed a search in Google Scholar and PubMed for papers about environmental noise and its effects on mental health. I concentrated on papers that addressed the impact of noise on different populations. About three quarters of the papers identified were population-based using cross-sectional analysis. The remainder were reviews which discussed theory, surveys that focused on noise as related to health disparities, or surveys stratified by sequelae of excess noise. Populations studied included children, adolescents and older adults. **Results:** I identified 20 relevant papers. Sources of data included that collected from Montreal, Chicago, Houston, Denmark and South Korea. Over the past six years, an increasing number of studies have examined the relationship of environmental noise to socioeconomic status and ancestry. General conclusions were that environmental noise results in serious mental health and physical health issues in the populations studied. At the community level, greater exposure to noise pollution was linked to lower socioeconomic or minority status. Discussion: There is growing observational evidence that community-level inequality exists with regard to exposure to noise pollution, with socially and economically disadvantaged communities at greater risk. This is in line with previous studies (2007-2015) showing similarly increased risk for toxic and hazardous waste exposure in these settings. Conclusions: To support environmental justice, urban planners and local officials should take local noise exposure into consideration when planning and building airports, transportation systems, and construction projects. It is proposed that excess noise be considered a form of climate pollution that deserves governmental attention. Ongoing

longitudinal studies of the effects of environmental noise in varied communities is also recommended.

**No. 46****A Pilot Study of Reverse Triage: Making Room for COVID by Flushing Inpatient Psychiatry.**

*Poster Presenter: James Edward Black, M.D., Ph.D., M.P.H.*

**SUMMARY:**

**Background:** Multiple surges of critically ill COVID patients overwhelmed many hospitals last year, forcing them to utilize crisis standards of care to obtain new beds in other units, surgical suites, hallways, and even gift shops. "Reverse triage" is the protocol for rapidly freeing up hospital beds by identifying stable patients who can be pushed out early. Similar ideas are used to divert patients from emergency departments, or by halting elective surgeries in a crisis. Psychiatry beds are appropriate dispositions for medical patients who do not require ICU level care. Inpatient psychiatrists could potentially discharge their patients who are waiting on court, insurance, family, or group homes. However, little is known about who to discharge, how to balance risks with community needs, and where they would go. **Project Description:** We describe here a pilot effort to develop reverse triage policies in a Midwestern hospital with about 100 psychiatric beds during the COVID pandemic. First, we surveyed staff involved in everyday discharge planning about where they could see early discharges in an emergency. Second, we examined existing Quality-Improvement data on Avoidable Days from Mar-Nov 2020, i.e., 2501 days when patients could have been safely discharged earlier. Presumably such wasted admission days could be used to target early discharges in a crisis. **Lessons Learned:** Staff was familiar with existing procedures for evacuations or mass casualty events, but not with the reverse triage concept. Staff was painfully familiar with the many reasons for delayed discharge (often to the point of hopelessness or resignation), and some believe that delays were often due to prejudice and avarice. The second part of the study found that 58% of the QI Avoidable Days involved waiting for placement in group homes, treatment programs, or state facilities. Extra staffing and funds

would be required in the community to quickly free up hospital beds in a crisis. Even when there is no crisis, these outpatient beds (funds and staffing) are a major bottleneck for getting patients discharged. In addition, expediting insurance, and emergency guardianship could save about 13% of Avoidable Days in our sample. Policies for reverse triage using inpatient psychiatry beds would not be a quick fix, but legislative or regulatory efforts could start now to address needs in a crisis. **Recommendations:** Multiple COVID surges have taught us the value of good preparation and flexible responses. Future emergencies may require us to empty psychiatric beds in a hurry, but little is known about best practices. This pilot study of reverse triage suggests that we: 1) help clinical staff get more comfortable with reverse triage by using periodic tabletop exercises, 2) increase government funds and staffing available in a crisis to make community beds available in a crisis, and 3) push for legal and regulatory crisis-rules to expedite insurance, services, and guardianship.

#### No. 47

##### Physician Screening for Sexual Violence in Puerto Rico

Poster Presenter: Gerardo I. Collazo, M.D.

Co-Author: Alisha M. Subervi, M.D., M.P.H., M.Sc.

##### SUMMARY:

**Introduction:** Sexual violence (SV) is a prevalent (1 in 3 women, 1 in 6 men) social, legal and health problem. The short- and long-term consequences of SV warrants health professionals to be proactive in its identification and management. The aim of this study is to assess a group of physicians, in Puerto Rico (PR), knowledge regarding SV. **Methods:** This was a cross sectional descriptive study (IRB EMSJB-16-2018) of physicians who are members of the PR College of Physicians and Surgeons. Data was obtained from 91 physicians by an online validated questionnaire. **Results:** Upon the participants, 66.3% were female. The mean age was 50.2 (SD 14.3). The majority (59%) received medical education in PR. Physicians, from 19 different fields of work, participated. The majority (54%) had more than 20 years of practice. Regarding knowledge of SV, 99% responded positively but only 47% had been trained.

Survey included data regarding training, place of training, last training, questions regarding physician knowledge, patterns of screening, and the barriers to screening. There was no statistical difference ( $p>0.05$ ) between years of practice, knowledge of SV, physician's age group and screening for SV. Training was found to be statistically significant ( $p<0.05$ ). **Conclusion:** Although some physicians state they have knowledge regarding SV, this does not appear to translate into screening. Screening by physicians is the first step for the management. SV should be included in all medical training and continued medical education. The continuity from knowledge to screening makes the difference between healing and revictimizing. This study had an impact on funding to Puerto Rico Health Justice Center to develop a curriculum for medical students and continuing education credits for physicians in PR. Intellectus Foundation awarded PRHJC \$62,000 due to the results of this study and part of conferences given in the community. Increased knowledge about sexual violence increases the probabilities of better mental health outcomes for the victims.

#### No. 48

##### Addressing Mental Health Care Needs in the Country of Tajikistan

Poster Presenter: Courtney Brooks, M.D.

Lead Author: Ruhan Farsin

Co-Authors: Ananda Pandurangi, M.D., Salim

Zulfiqar, M.D.

##### SUMMARY:

**BACKGROUND:** Tajikistan is a central Asian country bordering Uzbekistan, Afghanistan, and Kyrgyzstan. It has a long and rich history but remains an underdeveloped nation with limited healthcare resources. Despite the global increase in prevalence of evidence-based mental health care, Tajikistan and its neighbors in Eastern Europe and Central Asia continue to face challenges in accessing such care. Specifically, Tajikistan has the lowest GDP per capita in the Europe and Central Asia region as well as the lowest health expenditure per capita. This has left the populace with restricted resources consisting of physicians with no formal mental health training and limited access to medications. **AIMS:** In this report,

we present the ongoing efforts of our team in assessing the current status of mental health care delivery systems in Tajikistan and our aims to address the shortage of psychiatric care in the country. **METHODS:** Our team consists of a US board certified psychiatrist, a PGY3 psychiatry resident, and a third-year medical student. Working alongside Aga Khan Health Services, over the last 2 years our team has made an in-person visit to Tajikistan and also remotely gathered information on current mental health care needs at a large medical center in the City of Khorog in Tajikistan. **RESULTS:** (1) The most common mental disorders among adults encountered at this center are major depressive disorder, generalized anxiety disorder, and PTSD. In children, ADHD, autism, and learning disorders are prevalent. Patients seen have ranged from 6 to 80 years old. (2) An Assertive Community Treatment model has been initiated where patients are triaged and assigned to long-term care using the limited resources available. (3) Regular remote meetings have been conducted with healthcare workers in Khorog where we provide psychoeducation on signs and symptoms of common mental health diagnoses and recommended treatments. (4) Our team has also provided direct consultation on complicated patients such as a woman in her 60s with no prior history of mental illness who developed severe depression with psychotic features. Proper treatment was significantly delayed as family had to travel out of the country to access antipsychotic medication. **DISCUSSION:** Our continued goals are to make more physical visits as well as regular remote 'visits', support, educate, and encourage our local partners, incorporate culturally relevant assessments and care models, observe/monitor implementation of the recommendations, and aim for extension of this model to other mental health centers in Tajikistan starting with those with the greatest need. **CONCLUSIONS:** The Central Asian countries including Tajikistan are in significant need of increased resources, education, and training to provide evidence-based care to their citizens. Our initial efforts have been successful and met with much enthusiasm by local providers and authorities. The next physical visit by our team is scheduled for early 2022.

#### **No. 49**

#### **Lifetime Risk and Correlates of Incarceration in a Nationally Representative Sample of U.S. Adults With Non-Substance Related Mental Illness**

*Poster Presenter: Marina Nakic, M.D., Ph.D.*

#### **SUMMARY:**

*Purpose:* High rates of psychiatric disorders in correctional facilities have fueled widespread concern about the "criminalization of mental illness." While the link between incarceration, substance abuse, and antisocial personality disorder is well established, the relationship between non-substance-related psychiatric disorders and incarceration has not been thoroughly investigated. This study examines the association of mental illness, excluding substance use disorders, with risk for incarceration in US adults. *Methods:* Nationally representative data from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III) were used to compare the proportions of respondents with lifetime incarceration among those with no lifetime history of DSM-5 disorders, or with lifetime history of mental illness, substance use disorders, dual diagnosis, and antisocial personality/conduct disorder. Logistic regression analysis was used to examine the independent association of incarceration with mental illness alone, both in comparison to and net of associations with sociodemographic and behavioral characteristics. *Results:* Among adults with mental illness alone, 6.7% reported past incarceration, compared to 4.8% with no history of DSM-5 disorders, and 20-40% in other DSM-5 diagnostic groups. Sociodemographic and behavioral risk factors were more strongly associated with incarceration ( $c$ -statistics=0.74 and 0.77 respectively), than mental illness ( $c$ -statistic=0.56). Schizophrenia or other psychoses and borderline personality disorder were independently associated with incarceration, but with effect sizes no greater than eight other sociodemographic or behavioral risk factors. *Conclusion:* A weak association of mental illness alone with incarceration was found, despite high level of public attention to "criminalization of mental illness."

## No. 50

### Barriers to Primary Care Implementation of Recommendations From Collaborative Care Psychiatric Case Conferences in a Safety Net Clinic

Poster Presenter: Jennie Yoo, M.D.

Co-Authors: Cody Bryant, M.D., Charles Gladden Manchee, M.D., Isabel Lagomasino

#### SUMMARY:

**Background:** The collaborative care model has been shown to be fast and effective for treating depression and anxiety, resulting in higher and faster rates of remission, increased rates of antidepressant use, and higher physical and mental health quality of life (1, 2). However, there are barriers to the integration of high-quality mental health care in primary care, including a necessity for timely follow-up after the collaborative care conference (3). There is limited data into the perspectives of primary care providers (PCP) regarding the psychiatric recommendations made during collaborative psychiatric case conferences (PCC). This study aims to understand barriers PCPs face to implementing PCC recommendations in a large public sector internal medicine trainee clinic in order to improve implementation of recommendations and mental health outcomes. **Methods:** A registry was created of patients > 18 years who were empaneled to a large adult outpatient primary care clinic and had Patient Health Questionnaire-9 (PHQ-9) scores > 10 from the period of January 2020 to January 2021. Patients with upcoming primary care appointments were discussed in weekly case conferences with an interdisciplinary team that included psychiatry consultants, a medical case worker, and a licensed clinical social worker. Recommendations were communicated to the PCP through documentation in the electronic medical record. PCPs were invited to participate in a confidential 5-question survey assessing the barriers to implementation of PCC recommendations. **Results:** Of 159 patients who were discussed in case conference, 151 had follow-up PHQ-9 scores after 30 days post-PCC. Patients were predominately 40-59 years old, female, Hispanic, and single. 68% of patients had been diagnosed with major depressive disorder by the PCP; 61% had prior antidepressant trials, 22% of which had two or more antidepressant trials. PCC recommendations to PCPs included medication

adjustments (63% of patients), referrals to integrated care psychiatry team (39% of patients), and social work outreach for further assessment (53% of patients). However, PCP implementation of recommendations was limited (20% of medication adjustments, 4% of referrals to the integrated care psychiatry team, 34% of referrals to social work). A survey of PCPs revealed logistical barriers to implementing PCC recommendations in a timely manner. These included patients being seen by other physicians during follow-up visits, patients being lost to follow-up, and prioritization of more acute medical concerns during short appointments. **Conclusion:** PCC provides the tools to screen a large volume of patients in a public sector adult outpatient clinic, identify patients at high risk, and provide timely interventions to improve mental health outcomes. To ensure successful implementation of PCC recommendations, particularly medication adjustments, further interventions such as targeted education and effective hand-offs may be needed.

## No. 51

### Factors Associated With Meaningful Engagement in Collaborative Care

Poster Presenter: Heather C. Huang, M.D.

Co-Authors: Hsiang S. Huang, M.D., Nichole Nidey

#### SUMMARY:

**Background:** Collaborative Care (CC) is an evidence-based method of treating behavioral health conditions in primary care. Understanding how CC programs can meaningfully engage patients is central to promoting positive outcomes. Research on patient engagement in CC is sparse and extant definitions of meaningful engagement are varied. Past research on demographic and clinical factors predicting meaningful engagement has yielded mixed results. In this study, we aimed to provide an operationalized definition of and identify factors associated with meaningful engagement in CC. **Methods:** To provide an operationalized definition of meaningful engagement, we incorporated extant examples with qualitative and quantitative information from a CC program implemented in an academic medical system (UW Health, Madison, WI). We conducted analyses on program evaluation data

from episodes of care (N=6481). We used chi-square tests to examine demographic and clinical variables that could predict meaningful engagement in CC.

**Results:** We defined meaningful engagement as having had three or more contacts with the CC team; documentation of PHQ-9 and GAD-7 was used as an indicator of contact. Of the 6,481 episodes, 57% were meaningfully engaged based on this definition. In our sample, men, patients who identified as White, patients who identified as non-Hispanic or Latino, and patients who received a warm handoff at referral were more likely to be engaged. Greater symptom severity on the PHQ-9 and GAD-7 was associated with higher likelihood of meaningful engagement. Patients who completed an intake but were never reviewed by the psychiatrist were less likely to be meaningfully engaged. **Conclusion:** Our results highlight several factors associated with meaningful engagement that could be incorporated into CC recruitment and treatment workflows. Presence of a case review by the CC psychiatrist was significantly associated with meaningful engagement and had the largest effect size. Case review provides an opportunity to re-evaluate the patient's treatment plan, explore barriers to care, and facilitate optimal engagement. More severe initial symptoms and having a warm handoff were associated with increased engagement in CC. We believe the proactive nature of and frequent outreach in CC allowed for greater engagement of severely ill patients. We view the warm handoff as a technique that facilitates a transfer of the patient's trust in the PCP to the CC team, thereby increasing the likelihood a patient will be receptive to CC services.

## No. 52

### **Early Life Stress, Gender, and the Insula: Social and Brain-Based Associations With Psychopathology and Relapse in Veterans With Alcohol Use Disorder**

*Poster Presenter: Manu Kaur*

*Co-Authors: Timothy Durazzo, Lea-Tereza*

*Tenekedjjeva, Michelle Madore, Claudia Padula*

#### **SUMMARY:**

**Background:** Early life stress (ELS) is associated with psychiatric disorders, substance use disorder relapse, and changes in brain activity, particularly in

the insular cortex. Gender is reported to moderate ELS, psychiatric outcomes, and anterior insula (aINS) activity. However, little is known about these associations in those with alcohol use disorder (AUD). Accordingly, the goal of this study was to investigate ELS, gender, and aINS activity as factors that contribute to psychiatric symptoms and relapse rates in Veterans with AUD. **Methods:** A total of 178 Veterans with AUD in residential treatment were included in this analysis (33 identified as women, 145 identified as men). Participants completed an emotional reactivity fMRI task to assess aINS activity in response to sad and neutral facial stimuli. Participants completed the PTSD Checklist scale, Depression, Anxiety and Stress Scale, Mood and Anxiety Symptom Questionnaire and the Early Life Stress Questionnaire (ELSQ). Categorical principal components analysis (CATPCA) was used to determine subtypes of ELS. Self-reported relapse was defined as consuming any alcoholic drink within 6-months post-treatment. T-tests were used to compare gender and relapse status across psychiatric symptoms and aINS activity. Linear and logistic regressions were used to investigate the predictive value of ELS, gender, and aINS activity on psychiatric symptoms and relapse status, respectively. **Results:** The CATPCA resulted in two distinct domains of ELS. Domain 1 was consistent with threat (e.g. physical abuse) while Domain 2 was consistent with loss (e.g. loss of immediate family). Higher ELS Domain 1 score predicted higher depression ( $p=0.01$ ), anxious arousal ( $p=0.02$ ), and PTSD symptoms ( $p=0.02$ ). Women scored significantly higher on all of these factors. Higher ELS Domain 2 score predicted higher activation of the right aINS ( $p=0.01$ ). Women had higher activation of the right aINS ( $p=0.04$ ). Women and men were equivalent on relapse rates. Lower right aINS activity was associated with increased relapse risk within 6 months post-treatment ( $p=0.02$ ). **Conclusion:** Despite scoring higher on all psychiatric symptoms associated with ELS Domain 1, women and men showed equivalent rates of relapse, suggesting a possible resilience factor in women, which warrants future research to understand these dynamics. Women presented with higher right aINS activation, which was also observed in abstainers across genders. The aINS may be a region of interest to further study in trauma and AUD. These findings

suggest that there is specificity in the underlying mechanisms that connect ELS to psychopathology and brain activity. ELS Domain 1 predicts psychiatric symptoms while ELS Domain 2 predicts a change in regional brain activity that is associated with relapse in AUD. If brain activity, but not psychiatric symptoms, is able to predict relapse, then a brain-based translational approach to predicting relapse in AUD is warranted.

#### No. 53

##### **Prevalence and Correlates of Mental Health Referrals Among U.S. Military Personnel With Combat Injury**

*Poster Presenter: Andrew MacGregor*

*Co-Authors: Jessica Watrous, Judith Harbertson, John Fraser*

##### **SUMMARY:**

**Background:** The U.S. conflicts in Iraq and Afghanistan resulted in the most combat casualties since the Vietnam War. No study has examined the prevalence and correlates of mental health (MH) referral after combat injury. Aims of this study were to (1) identify MH referral rates by year for casualties from 2004 to 2012, (2) evaluate demographic predictors of MH referral, and (3) determine the relationship between MH and other referrals. **Methods:** The study sample included 15,862 service members (SMs) wounded in Iraq or Afghanistan who were screened for physical and mental health concerns within 1-year postinjury. SMs completed a self-reported health assessment at the end of deployment. A military health care provider reviewed the screening results and determined whether referral was indicated. MH referral rates were calculated by year, and a chi-square test assessed for differences. Multivariable logistic regression was used to assess the relationships between MH referral and demographic predictors, including gender, age, and service branch, while adjusting for injury severity. Odds ratios (ORs) and 95% confidence intervals (CIs) were reported. Chi-square tests were used to compare prevalence of other specialty referrals (i.e., orthopedics, neurology, audiology) among SMs with and without MH referral. **Results:** Most SMs were males (95.9%), aged 18–24 years at time of injury

(54.5%), in the Army (78.6%), and sustained mild-moderate injuries (92.0%). The overall MH referral rate was 18.4%, and referral rates differed significantly by year ( $p < .001$ ). In 2004, the lowest referral rate was reported at 9.4%, increasing to 11.3% in 2005, 14.0% in 2006, 17.3% in 2007, and peaking at 24.0% in 2008. Referral rates for 2009–2012 were stable and ranged from 19.5% to 21.1%. SMs in the Marine Corps had lower odds of MH referral than those in the Army (OR 0.46; 95% CI 0.41–0.52). Females had higher odds of MH referral than males (OR 1.51; 95% CI 1.26–1.80). SMs with an MH referral relative to those without were significantly more likely ( $ps < .001$ ) to also be referred for orthopedics (16.4% vs. 6.9%), neurology (14.5% vs. 5.5%), and audiology (11.7% vs. 6.0%). **Conclusion:** MH referrals among SMs with combat injury increased between 2004 and 2012, possibly due to an increasingly stressful combat environment, improved symptom ascertainment, or reduced stigma in reporting MH concerns. Differences in referral rates for females and Marines warrants further examination, particularly as women assume a greater role in U.S. combat operations. The associations between MH and other referrals highlights the concept of multimorbidity, which can require multidisciplinary treatment. Screening protocols and provider referrals are an important early step to ensure SMs with combat injury receive appropriate care. Future studies should extend these findings by exploring presentation patterns for referred SMs. This work was supported by the U.S. Navy Bureau of Medicine and Surgery.

#### No. 54

##### **Perception of Organizational Humility Weakens the Positive Relationship Between Combat Exposure and Depressive Symptoms After a Military Deployment**

*Poster Presenter: Walter Sowden*

##### **SUMMARY:**

**Background:** *Combat exposure* negatively influences the mental health of military service members (Ramchand et al., 2015). No research has examined how this relationship is influenced by service members' perception of their organization's *emotional culture* (Ashkanasy & Hartel, 2014). This

research examined how *perceived organizational affect* influenced the relationship between combat exposure and psychological distress after a military deployment. **Methods:** 1,671 (Age<sub>M</sub>: 25.2/5.8; 91.6% Male: 50.1% White) U.S. Army Soldiers from a large military organization (brigade) took a survey one month after completing a nine-month overseas deployment. The survey included measures of depression (PHQ9), anxiety (GAD7), and posttraumatic stress (PCL4), the short version of the Walter Reed Army Institute of Research's Combat Experiences Scale, the Emotional Cultures Scale (ECS), and the Social Desirability Scale (SDS). Factor analyses were used to examine the structure of the ECS. General linear modeling was used to regress each indicator of psychological distress onto the index of combat experiences and the interaction between combat experiences and each of the five emotional cultures that emerged from the factor analysis (labeled *organizational zeal, joviality, unease, anger, and humility*). The SDS was modeled to account for social desirability bias. **Results:** There was a statistically significant positive relationship between combat exposure and psychological distress (depression:  $\beta = .115$  [.042; .188],  $p = .002$ ; anxiety:  $\beta = .110$  [.042; .178],  $p = .002$ ; post-traumatic stress:  $\beta = .123$  [.083; .162],  $p < .001$ ). The relationship between combat exposure and depressive (but not anxious or posttraumatic stress) symptoms was moderated by perceptions of organizational humility ( $\beta = .082$  [.005; .160],  $p = .037$ ), but not zeal, joviality, unease, or anger. Simple slopes revealed perceptions of high organizational humility statistically *eliminated* the relationship between combat exposure and depressive symptoms ( $\beta = .016$  [-.094; .126],  $p = .780$ ), whereas perceptions of low organizational humility (i.e., arrogance) *strengthened* it ( $\beta = .135$  [.067; .239],  $p = .001$ ). **Conclusion:** In addition to replicating previous research demonstrating the deleterious relationship between combat exposure and psychological distress, this research shows that this relationship can be modulated by perceived organizational affect. This research adds to our understanding of how basic social-psychological processes like *social perception* and *sensemaking* shape the relationship between potentially distressful events (e.g., combat exposure) and the manifestation of psychological

distress in the military (Jex et al., 2013; Lazarus & Folkman, 1984). These results demonstrate the need for future research into how social-occupational perceptions influence psychological fitness and resilience in the military. This study was supported by the Military Operational Medicine Research Program (MOMRP).

#### No. 55

#### Assessing Behavioral Health Differences of Patients Seeking Mental Health Care by Region and Insurance in a Real-World Multiple Sclerosis Registry

Poster Presenter: Haley S. Friedler, M.P.H.

Co-Authors: Kyra Mulder, Ia Topuria, M.S., Gary Curhan, M.D., Sc.D.

#### SUMMARY:

**Background:** Multiple sclerosis (MS) is associated with behavioral health (BH) comorbidities. This analysis describes differences in comorbid BH conditions, healthcare resource utilization (HCRU), and medication use among patients with MS who were seeking mental health care (SMHC) by geographic region and insurance type. **Methods:** Data was derived from the OM1 MS Registry (OM1, Boston, MA), a multisource real-world registry with linked healthcare claims and electronic medical records data on patients with MS in the US (2013-2021). SMHC was defined as any encounter with a BH specialist, any BH-related procedure code, or any record for a BH-related medication on or after the first observed MS diagnosis (index). Only patients with non-null geographic region (region cohort) or non-null insurance type (insurance cohort) were included in respective assessments. Patient characteristics were assessed pre-index; comorbidities, HCRU, and medication use included data after index. **Results:** Of the 15,384 patients with MS who were SMHC, 15,136 (98.4%) and 9,906 (64.4%) were included in the region and insurance cohorts, respectively. Among the region cohort, patients were on average 49.3 years old [standard deviation (SD): 12.5], 78.3% female, 80.5% White, 5.6% Hispanic or Latino, and 7.4% current smokers (of known race, ethnicity, and smoking status). Most patients were from the South Atlantic region (23.6%), followed by the Middle Atlantic (15.9%),

West South Central (12.0%), Mountain (11.8%), East North Central (10.8%), Pacific (10.3%), West North Central (8.8%), East South Central (3.8%), and New England (3.1%). Proportions of BH comorbidities ranged from 57.5% in the Pacific to 78.8% in the East South Central (71.3% overall). Encounters with a psychiatrist were variable across regions, ranging from 16.2% in the Mountain region to 55.7% in the West South Central (28.8% overall). Most patients had a record for a BH medication (87.8%), and proportions were similar across regions. Characteristics of the insurance cohort were similar to the region cohort. Most patients had commercial insurance (68.2%), followed by Medicare (21.9%), Medicaid (5.0%), multiple (3.6%), and other (1.3%). Patients with Medicaid (83.7%) and multiple (81.3%) insurances had the highest proportions of BH comorbidities (72.6% overall). Encounters with a psychiatrist were more common for patients with multiple (35.8%), commercial (33.9%), or Medicaid (30.2%) insurances (31.4% overall). Most patients had a record for a BH medication (87.8%), and proportions were similar across insurance types. **Conclusion:** In a real-world MS registry, the proportion of patients SMHC with BH comorbidities and psychiatrist encounters varied substantially by region. Less variation in comorbidities and psychiatrist encounters was observed by insurance type. Most patients SMHC were treated with BH medications across regions and insurance types.

#### No. 56

##### **Suvorexant for the Prevention of Delirium: A Systematic Review**

*Poster Presenter: Kripa Balaram, M.D.*

*Co-Authors: Ricardo Escobar, Mohammad Lesanpezheshki, M.D., Briana Saltstone, Swapnil Khurana*

##### **SUMMARY:**

**Background:** Delirium is an acute confusional state characterized by fluctuations in cognition, attention, and awareness and represents a state of acute encephalopathy. Though any individual can be susceptible to developing delirium, common risk factors included prolonged hospitalization, postoperative states, advanced age, infection, and exposure to certain substances or medications.

Though there are generally accepted pharmacologic and non-pharmacologic interventions to manage the symptoms of delirium, there are no pharmacologic interventions that have been proven to effectively prevent its development. Some studies have indicated that prophylactic treatment with melatonin may reduce incidence of delirium, but previous trials of antipsychotics, anticholinesterase inhibitors, and sedative agents have otherwise been inconclusive. Suvorexant, an orexin antagonist, was recently approved by the FDA for insomnia treatment. Because sleep-wake cycle disturbances have been linked to the development of delirium, it has been proposed that a medication that affects sleep onset and maintenance may be effective in the pharmacologic management of delirium. The purpose of this review is to systematically review the literature on the efficacy of suvorexant for the prevention of delirium. **Methods:** We performed a literature search of PubMed, MEDLINE, Cochrane, and Google Scholar. Double-blinded, randomized, placebo-controlled trials published in English were included. **Results:** Two studies that evaluated the use of suvorexant for the prevention of delirium were identified. Both studies utilized DSM-5 criteria and a psychiatrist's assessment as their outcome measures to assess for the development of delirium. **Conclusions:** This review indicated that delirium developed significantly less in those taking prophylactic daily doses of suvorexant. The second study, which assessed both the new development of delirium as well as the recurrence of symptoms of delirium on subsequent nights after initial diagnosis, found that suvorexant was effective in preventing the development of delirium and also in preventing further episodes of symptomatic delirium in those who were previously diagnosed.

#### No. 57

##### **Modeling Reaction Time Distributions Increases the Statistical Power of Cognition Testing**

*Poster Presenter: Seth Hopkins*

*Co-Authors: Snezana Milanovic, Courtney Zeni, Steven Szabo, Kenneth Koblan*

##### **SUMMARY:**

**Background:** In clinical trials in schizophrenia, reaction time (RT) data from standard cognitive



batteries, used to quantify performance, are typically reported as mean log-RT. We examined whether current approaches using mean log-RT results in information loss relative to other approaches that more fully model individual subject's RT distributions. **Methods:** Reaction times were extracted from subject-level performance data during computerized Cogstate tests of Detection, Identification, and One Card Learning. Baseline Cogstate data from 7 drug development clinical trials (schizophrenia, bipolar disorder, N=1,890 subjects) were compared to normative data obtained from healthy subjects (N=7,108). Parameters describing subject-level RT distributions were obtained by Bayesian estimation of population models using either ex-Gaussian or Wiener diffusion model residual likelihoods (note: the shifted Wald diffusion model was utilized for Cogstate Detection since this task has a single component [reaction time] and the diffusion model is unnecessarily complicated). We evaluated two methods of analyzing Cogstate data for correctly categorizing subjects with a diagnosis of schizophrenia or bipolar depression versus healthy subjects: mean log-RT versus the parameters of RT distribution models (ex-Gaussian, Wiener Diffusion Model). Receiver operating characteristic (ROC) curves were used to evaluate the performance characteristics (sensitivity, specificity) of each analytic method for detecting a difference in Cogstate function between the clinical group and the healthy control group. Area Under the ROC Curve (AUC<sub>ROC</sub>) was reported to summarize overall accuracy of each analytic approach. **Results:** Subject-level RT distributions were well-described by ex-Gaussian and Wiener diffusion models, resulting in parameter estimates for each subject. The sensitivity/specificity of cognitive performance data alone to classify adults with schizophrenia or bipolar depression from healthy subjects was improved for each task. For example, correctly categorizing disease status was improved for the diffusion model versus mean log-RT, with AUC values of 81% vs. 77% for Identification, 78% vs. 69% for One Card Learning, and 74% vs. 62% for Detection. **Discussion:** Analyzing subject-level responses during cognitive testing recovers information lost when reporting mean log-RT. The ability to separate individuals with schizophrenia or bipolar depression from healthy controls using cognitive domains was improved by 4-

12 percentage points across cognition tasks. In conclusion, modeling subject-level RT distributions is superior to the typical use of single performance metrics and improved analysis methods may increase the statistical power to test specific hypotheses of cognition in clinical trials.

#### No. 58

#### Genetic Risk Factors and Addiction Relevant Phenotypes in Mice

Poster Presenter: Ozlem Gunal

Co-Author: Sarah Young

#### SUMMARY:

**Background:** Cocaine is a common drug of abuse that produces persistent changes in synaptic function and plasticity in the brain, which results in addiction, but the cause of the differential predisposition to addiction remains largely unknown. Cytoplasmic FMR1-interacting protein (CYFIP)1 has been identified as a risk factor for several neuropsychiatric disorders including schizophrenia, intellectual disability, and autism in humans, and regulates brain connectivity and function in mice (Bozdagi et al., 2012; Domínguez-Iturza et al., 2019). To test our hypothesis that Cyfip1 dosage changes also contribute to the regulation of addiction brain circuit, we studied cellular and behavioral responses to cocaine in Cyfip1 deficient (*Cyfip1<sup>+/-</sup>*) and control mice. We have previously showed that cocaine-induced increase in locomotor response is blunted in *Cyfip1<sup>+/-</sup>* mice, in male mice more than female. A cocaine-conditioned place preference paradigm showed slightly increased cocaine seeking in *Cyfip1<sup>+/-</sup>* mice. In order to add a self-controlling element and better simulate the pathophysiology of drug addiction in humans, here we studied a visual discrimination task by using a modified reward-based touch screen test. **Methods:** To test our hypothesis that cocaine responses are affected when Cyfip1 levels are reduced, we modified a touch screen based visual discrimination task which requires rodents to discriminate between two visual stimuli and to learn which stimulus was associated with a reward, by replacing the strawberry milk reward with oral cocaine. We used commercially available operant chambers (Bussey Mouse Touchscreen Chamber, Campden

Instruments, UK) and ABET II Touch software (Campden Instruments, UK) for protocol operation and data analysis, which is equipped with a touchscreen, house light, reward dispenser, and an overhead camera (Horner et al., 2013). At the end of the behavioral testing, the mice were euthanized, and the brains processed for immunofluorescence for synaptic proteins. **Results:** Our preliminary data showed that wild type mice displayed a shorter time for visual discrimination learning response with the administration of oral cocaine, whereas, during acquisition of pairwise visual discrimination, *Cyfp1<sup>+/-</sup>* mice required significantly more training trials to reach criterion than wild-type littermates and made more errors. **Conclusions:** Clarifying *Cyfp1*'s role in cocaine response and functional plasticity, which is a previously unexamined target, may be relevant for a variety of disease-related genes with similar functions. These findings may provide a mechanistic insight into genetic predisposition for substance abuse.

#### No. 59

##### **Parental Bonding in Body Focused Repetitive Behaviors**

*Poster Presenter: Stephanie Valle*

*Co-Authors: Eve K. Chesivoir, B.A., Jon E. Grant, M.D., M.P.H.*

##### **SUMMARY:**

**Background:** One means of understanding the effect of environmental factors on psychiatric disorders is by examining perceived parenting behavior in the childhood of individuals with Trichotillomania and Skin Picking Disorder (i.e. body focused repetitive behaviors (BFRBs)). We hypothesized that adults with BFRBs would show higher scores on dimensions of "care" and "overprotection". Specifically, we predicted that adults with BFRBs would have parents in the "affectionate constraint" quadrant, based on a combination of high care and high protection scores. **Methods:** We assessed demographic and clinical differences in 184 adults between the ages of 18 and 65 with Trichotillomania (TTM) (n = 43) and Skin Picking Disorder (SPD) (n = 75), and both (n = 66). The Parental Bonding Instrument (PBI) measured "care" and "overprotection" items. Results from the PBI were compared across groups and with normal

control data using independent sample t-tests.

**Results:** Individuals in the BFRB group had significantly lower maternal and paternal care scores compared to controls. The TTM, SPD, and TTM + SPD (combined) groups all had lower maternal care scores than controls. The TTM + SPD (combined) group had significantly lower paternal care scores and higher maternal protection scores than the normative averages. The most common parenting patterns in subjects with BFRBs were maternal and paternal affectionless control (low care/high protection). From our sample, only 27% reported optimal maternal parenting and 28% reported optimal paternal parenting. **Discussion:** These preliminary data suggest that maternal and paternal low care may be associated with BFRBs. However, the nature of this relationship should be further explored, as these results do not necessarily mean that affectionless control parenting results in a predisposition to BFRBs and there may in fact be other environmental factors at play. Identifying challenging points such as how individuals perceive familial relationships may provide direction for clinicians in developing tools to address the burden caused by BFRBs.

#### No. 60

##### **Opioid Prescription Dispensing Patterns Among Patients With Schizophrenia or Bipolar Disorder**

*Poster Presenter: Brittany Roy*

*Co-Authors: Jianheng Li, Cathy Lally, Sarah Akerman, Maria Sullivan*

##### **SUMMARY:**

**BACKGROUND:** Patients with schizophrenia (SZ) or bipolar disorder (BD) who are prescribed opioids may have an increased risk of opioid-related complications, including overdose and misuse. We compared prescription opioid dispensing in patients with SZ or BD versus controls over a 5-year period (2015 to 2019) beginning 1 year before publication of the CDC Guideline for Prescribing Opioids for Chronic Pain. **METHODS:** This retrospective observational study analyzed claims data from the IBM® MarketScan® Commercial and Multi-State Medicaid Databases. Individuals aged 18–64 with =1 inpatient or =2 outpatient claims for SZ or BD diagnoses during the year preceding analysis years

2015 to 2019 were included with age- and sex-matched controls. Baseline characteristics, comorbidities, and medication utilization were assessed. Opioid dispensing was defined as chronic (=70 days over a 90-day period or =6 prescriptions annually) or nonchronic (=1 prescription, chronic definition not met during an analysis year). **RESULTS:** In 2019, the Commercial and Medicaid databases had 4773 and 30,179 patients with SZ, and 52,780 and 63,455 patients with BD, respectively. From 2015 to 2019, patients with SZ or BD had a higher prevalence of comorbidities, including pain, versus controls. Among commercially insured patients with SZ, the proportion receiving chronic opioid dispensing decreased from 6% (controls: 3%) in 2015 to 2% (controls: 1%) in 2019 and, for patients with BD, from 11% (controls: 3%) to 6% (controls: 2%). Chronic opioid dispensing proportions also declined in patients with SZ covered by Medicaid from 15% (controls: 15%) in 2015 to 7% (controls: 6%) in 2019 and, for patients with BD, from 27% (controls: 12%) to 12% (controls: 5%). Among commercially insured patients with SZ, nonchronic opioid dispensing proportions decreased from 15% (controls: 16%) in 2015 to 11% (controls: 11%) in 2019 and, for patients with BD, from 26% (controls: 17%) to 20% (controls: 12%). In Medicaid-covered patients with SZ, nonchronic opioid dispensing proportions declined from 23% (controls: 24%) in 2015 to 15% (controls: 13%) in 2019 and, for patients with BD, from 32% (controls: 26%) to 25% (controls: 14%). **CONCLUSIONS:** From 2015 to 2019, the proportion of individuals receiving chronic or nonchronic prescription opioid dispensing significantly decreased for patients with SZ or BD and their respective controls in the Commercial and Medicaid databases. Although the proportion of individuals receiving chronic or nonchronic opioid dispensing in each analysis year was similar between patients with SZ and controls in both databases, these proportions were consistently higher for patients with BD versus controls in both databases.

#### **No. 61**

##### **Using Real-Time Surveillance Methodology to Detect Adverse Events Arising in Acute Mental Health Services**

*Poster Presenter: Andrea E. Waddell, M.D., M.Ed.*

*Co-Authors: Zoe Findlay, Paul Kurdyak, M.D., Ph.D., Brian Wong*

#### **SUMMARY:**

Abstract Despite a strong focus on reducing violence and prevention of suicide, mental health services have lagged behind the rest of the health care system in patient safety practices. The majority of mental health facilities rely on voluntary reporting systems and random chart audit despite the fact these methods are known to capture less than 40% of the harm arising to patients during care. Real-time (or prospective) surveillance has been used in the acute care setting as a gold standard method for detecting and describing adverse events and harm. This study is the first-ever application of this method in a psychiatric setting and provides a detailed report of safety incidents arising during care. Methods: An embedded observer (a trained psychiatric nurse) spent 12 weeks on an acute care psychiatric inpatient unit - attending rounds, reviewing charts using a trigger tool and taking reports from unit staff. For each incident arising, a multidisciplinary team reviewed the event using a structured scoring system and used the Joint Commission classification of root causes to describe possible contributors to events. Results: We reviewed 69 incidents, 75.7% were minor-moderate harm, 21.4% were no harm and 2.9% were near miss. Medication and ECT side effects and aggressive behaviour were the most common event types. Common contributing factors were staff training, medication errors, clinical decision making, communication between providers and application of policy into practice. The poster will provide a detailed breakdown of events and root causes. Conclusions: This project provides the first detailed look at patient safety incidents arising in acute mental health services and generates valuable information for acute care practitioners and mental health leaders when determining priorities to improve patient safety.

#### **No. 62**

##### **The Mental Health Trigger Tool Is Superior to Voluntary Reporting Systems in Detecting Adverse Events in Acute Psychiatric Inpatient Care.**

*Poster Presenter: Andrea E. Waddell, M.D., M.Ed.*

Co-Authors: Nicole Thomson, Yasir Khalid, Ammar Khairullah

#### **SUMMARY:**

**Background:** Patient safety is top of mind in acute mental health services. Many treatment plans focus on risks of suicide and violence and how to mitigate it. Patients in hospital are also at risk of harm due to medical error, falls and missed care. Current incident reporting programs are thought to identify between 10-25% of the incidents occurring in an acute care setting leaving a large volume of harm undescribed. Trigger tool methodology has been widely used outside of mental health to improve the detection of incidents in hospital and develop risk reduction strategies. This study outlines the validation of a Mental Health Trigger Tool (MHTT) in a large psychiatric institution. **Methods:** This study was carried out at the Centre for Addiction & Mental Health, Canada's largest academic psychiatric hospital. Using the Institute for Healthcare Improvement's Global Trigger Tool methodology, 260 records from a twelve-month period (January-Dec 2019) were reviewed using the MHTT. Voluntary reporting data for the same cases were reviewed to compare incident detection. **Results:** The MHTT detected almost three times the incidents found with voluntary reporting. Using the MHTT, the incident rate was 44.17 incidents per 1000 patient days compared to 17.17 incidents per 1000 patient days detected with voluntary reporting. The MHTT detected more incidents of aggression, self-harm, medication adverse events and elopements than voluntary reporting systems. **Conclusion:** The MHTT is superior to voluntary reporting for incident detection in the acute mental health setting. Following the IHI framework, this is a feasible and valid method for detecting harm arising in care.

#### **No. 63**

#### **Borderline Personality Disorder Symptom Presentation in Comorbid Posttraumatic Stress Disorder**

Poster Presenter: Eve K. Chesivoir, B.A.

Co-Authors: Stephanie Valle, Jon E. Grant, M.D., M.P.H.

#### **SUMMARY:**

**Background:** Borderline personality disorder (BPD) is characterized by a chronic inability to regulate emotions, unstable interpersonal relationships, and impulsive behavior. In previous studies, up to 90% of individuals with BPD have reported experiencing significant trauma in their lifetime, with 26% to 57% meeting diagnostic criteria for post-traumatic stress disorder (PTSD). However, the effect of trauma on BPD symptom presentation and illness severity remains unclear. This study aims to compare BPD symptom severity across several dimensions in adults with BPD and adults with BPD and comorbid PTSD. **Results:** 71 treatment seeking adults with a formal diagnosis of DSM-5 BPD were assessed for PTSD using the Mini-International Neuropsychiatric Interview (MINI). Participants also completed the Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD) and the Borderline Symptom List – Long (BSL-95) to assess severity of various dimensions of BPD, as well as the Quality of Life Inventory (QOLI) and Barratt Impulsiveness Scale (BIS). A one-way analysis of variance was conducted to examine differences in symptom presentation between participants with and without comorbid PTSD ( $p < .05$ ). **Results:** Of the 71 participants, 20 met DSM-5 criteria for current PTSD on the MINI (28.2%). The PTSD group had significantly higher scores on the intrusion ( $F(1,60) = 10.47, p = .002$ ) and hostility ( $F(1,60) = 5.62, p = .025$ ) subscales of the BSL-95. The PTSD group also showed significantly higher levels of cognitive instability on the BIS ( $F(1,60) = 7.14, p = .010$ ). On all ZAN-BPD subscales, PTSD group means were higher than the non-PTSD group, however none reached statistical significance. The PTSD group did not report significant differences in quality of life. **Discussion:** The data suggest that individuals with co-occurring BPD and PTSD experience more problems related to intrusive thoughts, torturous images, dissociation, anger, and aggression than individuals without co-occurring PTSD. These more dominant symptoms in the PTSD group echo some of the symptoms commonly seen in PTSD (e.g. intrusive flashbacks, increased aggression). This suggests that different dimensions of BPD pathology may be emphasized in those with comorbid PTSD, but the global severity of BPD is not necessarily affected by a comorbid PTSD diagnosis. Further research should continue to uncover how

comorbidity affects symptom presentation of various psychiatric disorders.

**No. 64**

**Predicting Cost of Inpatient Psychiatric Hospitalizations in New York Hospitals by Applying Machine Learning to SPARCS Dataset**

*Poster Presenter: Shaan Kamal*

*Co-Author: Mohammed Malik*

**SUMMARY:**

Background Psychiatric hospitalization is a crucial, and sometimes necessary, aspect of psychiatric care. Due to its multidisciplinary nature, use of various resources, and potential for extended length of stay, it has been difficult to determine the factors that determine cost of inpatient psychiatric hospitalization. Machine learning has emerged in recent years as a valuable tool in healthcare - it can be used to build models that automatically make decisions and determine optimal outcomes. One aspect of machine learning that has been particularly useful is the ability to make predictions by analyzing comprehensive datasets. There have been multiple studies that utilize machine learning to predict factors that lead to hospitalization. However, the literature lacks data on predicting cost once a patient actually is hospitalized. Due to the high cost burden of psychiatric hospitalization, this is a pertinent and overlooked area of research. Methods In this work, we attempt to predict the monetary cost of inpatient psychiatric hospitalizations utilizing the Statewide Planning and Research Cooperative System (SPARCS) database. This is a comprehensive database created by the state of New York that collects information on patient characteristics, diagnoses and treatments, costs of various services, and length of stay, in all New York hospitals organized by year. We analyzed all psychiatric-related admissions for the year of 2016 from 189 hospitals, resulting in a dataset of 114,656 patients. We trained an XGBoost regression machine learning model on patient data including race, hospital being treated at, diagnosis, and severity of illness to predict cost of hospitalization. This was done using an 80/20 training/testing split. Results The average cost of hospitalization was \$36,898.36 and the standard deviation within the dataset was

\$58,614.68. The coefficient of determination  $R^2$  for the model predicting total cost of hospitalization was 0.58. The mean absolute error of predictions was \$16,588.17. The features with the largest feature importances for the model's predictions were length of stay, hospital treated at, and zip code that the patient lives in. Conclusion Machine learning is a powerful tool that can be applied to large datasets to predict various outcomes and aid in one's clinical decision-making. This work adds to the literature by showing what the greatest factors are in psychiatric hospitalization cost, and thus provides guidance on how these costs can potentially be reduced or further studied.

**No. 65**

**Teaching Infant Parent Mental Health With Video Dialogues**

*Poster Presenter: Henry Rafael Marquez-Castro, M.D.*

*Co-Authors: Alexandra Harrison, M.D., Maria Jose Lisotto, M.D., Gayatri Meswani, Ana Mayen, M.D.*

**SUMMARY:**

Accumulating evidence suggests that a responsive infant-parent relationship can buffer the infant's developing nervous system against the negative effect of environmental stressors--ACE's--associated with chronic poverty. Teaching child caregivers how to support the infant parent relationship is an important and often neglected method of prevention, especially in communities with the most vulnerable families. In contrast with information about nutrition and immunizations, for example, sufficient information about early development, infant behavioral cues, and good practices in childcare is rarely covered in pediatricians', primary care doctors', and community health workers' communications to families of newborns. This is critically important in low resource communities where intergenerational trauma exposes children to increased risk of abuse and neglect. In addition, parents themselves could benefit from some of this knowledge. Yet, how do we present this information in a "user-friendly" way that is accessible to child caregivers with a wide range of education and experience? In response to a request from the director of a children's home, the NGO, Supporting Child Caregivers, initiated a project aimed at

supporting caregivers receiving a group of infants transferred from a government orphanage. These infants had all experienced abandonment or serious neglect or abuse, and the caregivers were not familiar with their special needs and how to best respond to them. An interdisciplinary team consisting of child psychiatrists, a pediatrician, and infant mental health clinicians created a series of dialogues communicating helpful information about infant care in the form of interactive dialogues that were then translated into the local language, edited for cultural congruence, and recorded by volunteers in the NGO or in the community. Following the success of this effort, the team expanded the project to include dialogues between two teens about early development, dialogues between pregnant teen mothers --“telenovela” style--and even dialogues between two teen fathers. The videos have been successful in delivering helpful knowledge to these child caregivers, and the team has decided to continue to use this method of preventive mental health in other communities in low to moderate income countries.

#### **No. 66**

##### **Neurocognitive Effects of Repeated Ketamine Infusion Treatments in Patients With Treatment-Resistant Depression: A Retrospective Chart Review**

*Poster Presenter: Danika Dai*

*Co-Authors: Courtney Miller, Violeta Valdivia, Stephen J. Seiner, M.D., Robert Meisner*

#### **SUMMARY:**

**Background:** Ketamine has emerged as a rapid-acting antidepressant in treatment-resistant depression (TRD) increasingly used in non-research, clinical settings. Few studies, however, have examined the neurocognitive effects of repeated racemic ketamine infusion treatments in patients with TRD. In an effort to identify potential effects after serial infusions, we conducted a retrospective chart review to identify statistically significant changes in cognition in patients undergoing serial intravenous infusions; concomitantly, we examined baseline cognition as a potential predictor of antidepressant potential. **Methods:** Twenty-two patients with TRD were examined after they finished the induction phase of (8-10) repeated intravenous

ketamine infusions and completed the assessments of their depressive symptoms (measured by the 16-item Quick Inventory of Depressive Symptomatology-Self Report scale: QID-SR<sub>16</sub>) and cognitive function (measured by the Montreal Cognitive Assessment: MoCA) before the first and last ketamine treatments.

**Results:** Repeated ketamine intravenous treatment administered through an escalating dose protocol produced a 47.2% reduction response in depression measured by QID-SR<sub>16</sub>; there was no evidence of cognitive impairment as reflected in MoCA testing. There was a moderate association between baseline cognition and antidepressant response from intravenous ketamine treatment.

**Conclusion:** In this naturalistic sample of patients with TRD in our clinical service, repeated ketamine intravenous infusions significantly decreased depression symptoms without impairing cognitive performance. The baseline cognition may positively predict antidepressant responses of repeated intravenous ketamine treatment. **Limitation:** As this research employed a naturalistic study design, patients were not systematically randomized, Potential confounding effects cannot be ruled out. In addition, the high drop-out rate was observed in our sample due to the cost of ketamine infusions and noncompliance to assessments.

#### **No. 67**

##### **Curricular Innovation: Telephone-Based Health Literacy Screening Conducted by Medical Students**

*Poster Presenter: Emily Huang, B.A.*

*Co-Authors: Madalyne A. Sunday, B.S., Shreyas Chandragiri, Colin C. Yost, B.A., Young Yong Sheng, A.B.*

#### **SUMMARY:**

**Background:** Limited health literacy is a major problem in the United States with 36 percent of the adult population having Basic or Below Basic health literacy levels. As such, the federal government has designated improving health literacy as a social determinant of health, declaring it a central focus of the Healthy People 2030 initiative. This is particularly relevant to mental health providers, as mental health literacy has been identified as a key determinant to help-seeking behavior. In order to

reduce disparities in health status and to address social determinants of health (SDOH), we must innovate the medical school curriculum to address health literacy. With this innovation, we were able to incorporate pre-clinical medical students in patient education and utilize the outreach methods available to us during a pandemic. **Methods:** We performed a telephone-based, health literacy screen with 16 patients that received COVID-19 testing in PA & NJ. The screening tool was developed by medical students using previously validated models and consisted of four questions assessing health literacy with an additional question regarding COVID-19 vaccination. Patients that screened positive for low health literacy received a teach-back intervention about CDC guidelines for COVID-19 red flag symptoms, safety precautions, and vaccination recommendations. **Results:** Out of 16 participants, 11 (69%) screened positive for at least one marker of low health literacy, and 8 were not vaccinated against COVID-19. Although all 16 participants had been hospitalized with COVID-19, only half of the patients interviewed with this screening tool had received both doses of the vaccine over 3 months after their recovery from COVID-19. Among non-vaccinated individuals, reasons for opting out of vaccination included lack of confidence with vaccine safety, uncertainty of when to get it after hospitalization, current pregnancy, or a lack of desire to receive it. Furthermore, 50% of participants reported they did not fully understand written information about COVID-19 or their other medical conditions. Additionally, more than half of participants stated they require assistance reading hospital/pharmacy materials or were not fully confident filling out discharge paperwork. **Conclusion:** This screening tool helped to identify patients with low health literacy, reveal gaps in patient-provider communication, dispel misinformation, and create opportunities for patient education. Our curricular innovation also created an avenue for preclinical medical students to participate in patient care. Although health literacy was assessed here in the context of COVID-19, our questionnaire could readily be expanded to include mental health literacy. Future directions include screening in the emergency department, conducting interviews during admission rather than after

discharge, and incorporating our tool into a more comprehensive screening process with other SDOH.

#### **No. 68**

#### **Associations of Prevalence of Schizophrenia and Other Psychotic Disorders and Opioid Prescription in the Medicare Population**

*Poster Presenter: Bara Saadah*

*Co-Authors: Jacques Lowe, Benjamin Gersh, M.D.*

#### **SUMMARY:**

**Background:** Opioids are a commonly abused substance that have been of particular interest among researchers due to increased rates of opioid related death in recent years [1]. Specifically, there appears to be increasing rates of opioid use within the Medicare population in the United States [2]. Previous research has noted that not only opioid misuse, but also severe mental illnesses such as schizophrenia, have both been related to poor health outcomes [3, 4]. There remains a paucity of research that discusses connections between opioid prescription rates' and schizophrenia and other psychotic disorders (SOPD) within the Medicare system. The objective of this study is to investigate if a relationship exists between the prevalence of SOPD and opioid prescribing rates amongst Medicare patients. **Methods:** Publicly available data was obtained from the Center for Medicare and Medicaid Services (CMS) from the years 2014-2019. The Medicare Prevalence of "Schizophrenia and Other Psychotic Disorders", which consists of data accumulated from several ICD-10 code F diagnoses, and Medicare Part D Opioid Prescribing Rates among United States (US) counties were of particular interest for this study. Medicare Part D Opioid Prescribing Rates were utilized as a proxy for potential opioid misuse as established by Abara et al [5]. This data was extrapolated and further cleaned for data analysis. Analysis was performed with R data analytics software using a linear mixed effects model with the states listed as a fixed effect to establish a correlation. A positive result was defined as an increase in opioid prescribing rate as the prevalence of schizophrenia and other psychotic disorders increased within a county. **Results:** A total of 451,131,015 opioid claims were identified between 2014-2019. There was a positive

association between county-level prevalence of schizophrenia and other psychotic disorders and opioid prescription rates. The association observed was a 0.03% increase in the opioid prescribing rates as prevalence of schizophrenia and other psychotic disorders within a county increased by one unit. This was found to be statistically significant with a p-value <0.001 during the years 2014–2019 and a 95% confidence interval of 0.01-0.04. **Conclusions:** A positive correlation was observed between Medicare patient prevalence of SOPD and opiate prescription rates. While the data does not establish a causal relationship between opioid use and psychotic disorders in this population, the results prompt the need for further investigations to clarify if such a relationship exists. Clarification is necessary because previous works have suggested that these factors can independently decrease life expectancy. Further studies may indicate more specific efforts that could be made to minimize these risk factors.

#### **No. 69**

##### **A Study of the Stressors of Residency Interview Season in Fourth-Year Medical Students**

*Poster Presenter: Emily Shen*

*Co-Authors: Matthew Brandon Kelly, M.D., Emily Wu, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Medical students endure high levels of stress during their education, which is associated with poor sleep quality, depression, and burnout.<sup>1,2</sup> Interview season is especially stressful for students; one study found that 28% of medical students show signs of above-average stress during this time, leading to a nine-fold increase in the risk of burnout.<sup>3</sup> This study aims to further understand the mental health stressors surrounding interview season in medical students. **Methods:** 67 fourth-year medical students were surveyed from University of Texas McGovern Medical School at Houston. Survey was focused on mental health stressors during the residency application cycle of 2018 – with UT-Houston IRB approval. **Results:** Stressors assessed were mental health symptoms, interview logistics, and finances. Of the students surveyed, 68.7% were female, 86% were between ages 22-27, 56% were Caucasian, and 36% were Asian. Regarding

specialties, 14.9% of respondents were pursuing pediatrics, 13.4% psychiatry, 8.9% internal medicine, 8.9% anesthesiology, 8.9% OB-GYN, with remaining going into subspecialties. 47% of applicants applied to 26-50 programs and 64% received at least 11 interviews. The vast majority of students endorsed anxiety and other mood symptoms at least 1-2 times per month. Overall, 41% of applicants rated the stress of scheduling interviews as “a lot” or “a great deal.” Areas that caused stress in this process included: requirement to use 4 different scheduling platforms (44%), limited access to a device to schedule interview (78%), inability to attend interviews due to lack of available spots (37%), and inability to attend interviews due to overlapping dates (37%). More students planned to attend 11-15 interviews (45%), followed by 10 or less (35%), and 16 or more (20%). 51% of applicants felt they had sufficient time to attend interviews. 83% of students reported receiving no housing assistance for more than three-quarters of their interviews. Over half of the students felt “a lot” or “a great deal” of stress over the cost of interviews, and 25% of applicants turned down interview invitations due to cost prohibition. Almost all students did not receive a formal session on financial management, instead receiving informal advice through networks. Of note, over 50% of applicants also reported effective coping with stressors at least 1-2 times per month.

**Conclusion:** During interview season, fourth-year medical students experience significant stress related to mental health, logistics, and finances. Since this study was administered, COVID-19 has dramatically changed the interview landscape as a majority of programs are conducting virtual interviews this past year. Our future study will be to compare the stress experienced by 4th-year medical students during virtual interview with traditional on-site interview and to provide informative results for medical schools and residency programs to utilize in the future.

#### **No. 70**

##### **Iron Deficiency in Schizophrenia: A Matter of Chronic Inflammation?**

*Poster Presenter: Miqueu Alfonso Ramos, M.D.*

*Lead Author: Carla Hernández Rambla*

*Co-Authors: Gerard Anmella, Belen Arranz, Miguel Bernardo*



## **SUMMARY:**

**INTRODUCTION.** The prevalence of microcytic anemia in adult patients with schizophrenia ranges from 2.5% to 4.5%, with an OR from 1.90 (1.38 to 2.62) to 3.0 [2.0–4.3].<sup>1,2</sup> It has always been assumed that the increase in microcytic anemia's incidence seen in schizophrenia is at the expense of Iron Deficiency Anemia (IDA). However, psychotic patients also show a low-grade chronic inflammation which plays an essential role in hepcidin upregulation mechanisms, thus inducing a Chronic Disease Inflammatory Anemia.<sup>3</sup> To the best of our knowledge, this is the first large-scale original experiment looking at the relationship between serum Iron levels, inflammatory markers, and lifestyle variables in schizophrenic patients.

**METHODOLOGY.** We performed a cross-sectional cohort study over 507 patients diagnosed with a schizophrenia spectrum disorder. We assessed the lifestyle with the Questionnaire of Adherence to Mediterranean Diet (PREDIMED) and the Short Scale of Physical Activity (IPAQ). For the metabolic Iron status, we measured serum Iron, ferritin and transferrin concentrations, transferrin saturation and total Iron binding capacity, and for the inflammatory markers we measured serum C Reactive Protein (CRP) and Erythrocyte Sedimentation Rate (ESR). We performed an independent Pearson test correlation between each of the Iron status biochemical markers, the lifestyle scales, and the inflammatory markers. We also performed a backward stepwise regression with serum Iron concentration as the dependent variable. Subsequently, we generated three groups in the cohort. Group A: Low Iron and low ferritin (Serum Iron under 50 ug/L and ferritin under 30 ug/L); Group B: Low Iron and normal or high ferritin (Serum Iron <50 ug/L and ferritin ≥30 ug/L), and finally, Group C: Normal Iron (Serum Iron ≥50 ug/L). We performed a one-way ANOVA test to compare mean CRP and ESR concentrations among all three groups. Moreover, we executed two independent Student's *t*-tests to compare mean CRP and ERS between groups A and B. **RESULT AND CONCLUSIONS.** -To date no other experiment has identified the origin of the microcytic anemia seen in people with schizophrenia. -We found a prevalence of low serum iron of 9,5%. transferrin saturation and serum Iron

showed a strongly significant inverse correlation with the inflammatory markers CRP and ESR. We did not find any correlation between the inflammatory nor the Iron metabolism markers and the lifestyle variables. The subgroup with low Iron and normal ferritin (5,2% of the patients) showed a higher concentration of inflammatory markers, which strongly correlated with the serum Iron levels. -Our data support the existence of a previously undescribed Chronic Disease Inflammatory Anemia in psychosis with a prevalence of 5,2% in our cohort. These results reinforce our theory that a subgroup of patients suffer an Iron metabolism alteration secondary to the chronic inflammatory status associated with the disease progression. Grant FEDER, PI17/00246

## **No. 71**

### **Study of Panax Ginseng on Insulin Resistance and Framingham Risk Score Driving Negative Symptoms in Treatment-Resistant Schizophrenia: Posthoc Analysis**

*Poster Presenter: Mariwan Husni, M.D.*

*Co-Author: Simon S. Chiu, M.D., Ph.D.*

## **SUMMARY:**

**Introduction:** Converging evidence suggests that schizophrenia carries higher mortality and morbidity. There is a paucity of studies to relate cardio-metabolic risks to clozapine-treated ultra-resistant schizophrenia (uTRS) symptoms and to explore adjunct strategies in uTRS. **Objective:** We conducted a post-hoc secondary analysis of the data from a multi-site randomized placebo-controlled trial of Panax Ginseng (RCT) conducted by our research group, to address the issue whether persistent negative symptoms in TRS correlate with estimate cardio-vascular/metabolic risks with 10-yr Framingham Risk Score (FRS) and Metabolic syndrome (MES) risk factors, and whether and insulin resistance (IR) behaves as the prime driver of MES and FRS. **Methods:** We recruited subjects who were treated with clozapine for > 6 months and who fulfilled Kane's criteria of TRS, and randomized them into : 1; Ginsana-115 (Boehringer-Ingelheim-Pharmaton, Switzerland) treatment group (GS) at 100 mg or 200 mg orally daily ; 2. Placebo group and were maintained on same dosages of clozapine for 8

weeks. We stipulated primary outcome changes in SANS score of negative symptoms, PANSS, and the secondary outcome of changes in FRS and rMES and conducted secondary post-hoc analysis of the RCT trial of Panax Ginseng. Results: Secondary data analysis showed that Ginsana-115 treated group (n=14) decreased insulin resistance measured with HOMA-IR(homeostatic/Model Assessment) and BMI significantly ( $p<0.05$ ) compared with placebo group (n=15). Ginsana-115 treatment reduced FRS score significantly compared with placebo: change in FRS at 8-week period from baseline level for Ginsana group 124.1% vs Placebo group 16.1%,  $p<0.05$ . In rMES profile, Ginsana-115 significantly ( $p<0.05$ ) reduced HOMA-IR measure and the systolic blood pressure ( $p<0.05$ ) with a positive trend normalizing High-density lipoprotein(HDL) and LDL-cholesterol and BMI. Both 100 mg and 200 mg po Ginsana group exerted similar effects on FRS. The cardio-metabolic risk changes correlated with Ginsana-115 response in improving the SANS negative symptom score. Response rate of Ginsana in negative symptoms defined as  $\geq 30\%$  reduction in SANS) is 50.0% compared with 9.1% in placebo group ( $p=0.03$ , number treated to treat:2.4). Between-subject analysis, Ginsana-115 reduced blunted affect, anhedonia, avolition and alogia subscale in the SANS compared with the placebo ( $p<0.05$ ). Ginsana was well tolerated for 8-week. IR correlated significantly with selected domains of NeuroCog. Conclusion: Our pilot finding that Panax Ginseng improves cardio-metabolic risks and negative symptoms in uTRS, warrants long-term controlled studies to delineate interrelationships of MEds and FRS to IR and to positive, negative and cognitive symptoms of TRS first episode psychosis, and to evaluate therapeutic potential of Ginseng in targeting NMDA:N-methyl-D-aspartic acid and dopamine-mediated inflammasomes at immunity-inflammation crossroads in schizophrenia.

## No. 72

### **Delusion Subtyping in Schizophrenia Spectrum Disorders Reveals Less Cognitive Impairment in Paranoid-Predominant Patients**

*Poster Presenter: Andrew van der Vaart, M.D., Ph.D.*

## **SUMMARY:**

Background: Schizophrenia can present with delusions of vast and varied content. Whether the type of content offers insight into disease mechanism or course remains mysterious. Further, measurement can be difficult, and self-report scales are rarely used in clinical practice, given uncertain utility. The Peters Delusion Inventory (PDI-21) was originally developed for studying the general population but has been found to reliably distinguish clinically deluded patients from non-deluded samples, and to show stability over time. We sought to investigate whether distinct factors may emerge when the PDI-21 structure was explored specifically within Schizophrenia Spectrum Disorder (SSD) patients, and whether such factors may differentiate patients in clinician rated symptoms, cognition, and functioning. Methods: SSD patients ( $n>250$ ) completed the PDI-21 and were separately assessed via the Brief Psychotic Rating Scale (BPRS), Brief Negative Symptom Scale (BNSS), and cognitive tests. An exploratory factor analysis (EFA) of the PDI-21 was performed within the SSD sample, identifying 4 factors. Each patient's individual factor scores were calculated by summing PDI-21 items loaded to that factor. K-means clustering was performed to identify sub-groups of patients differentiated by factor scores. General linear models were used to test associations between measures. Results: The PDI-21 was found to be suitable for EFA based on the Kaiser-Meyer-Olkin measure of sampling adequacy (0.90) and Bartlett test of sphericity ( $p<0.001$ ). EFA identified 4 factors with Cronbach's alphas ranging from good to acceptable. Items loaded  $>0.4$  to each factor showed common delusion themes, such that we defined Factors 1 as Paranoia, 2 as Grandiosity, 3 as Abnormal Self Processing (ASP), and 4 as Depressive. Within SSD patients, all factors showed a significant association with clinician-rated Psychosis, but only Paranoia showed a significant relationship with cognition—a positive relationship with both working memory and information processing speed. Clustering identified patient subgroups as Low-delusion, Pan-delusion, Paranoid-predominant, and Grandiose-predominant. Patient cluster was associated with total BPRS, with Pan-delusion patients scoring highest, and with the BNSS, with Low-delusion patients scoring highest. Patient cluster was significantly associated ( $p<0.05$ ) with

both cognitive tasks, with Paranoid-predominant patients scoring highest. Discussion: This study provides evidence of a 4-Factor structure of the PDI-21 when it is studied within an SSD population. Severity of psychosis showed concordance with delusion self-report. As subgroups, pan-delusion patients showed an increase in severity in clinician rated psychosis, while patients low in delusions showed greater burden of negative symptoms. Paranoid predominant patients showed less impairment on cognitive tasks. The potential prognostic and mechanistic value of this finding warrants further study.

### No. 73

#### **An Analytic Enrichment Strategy to Enhance Efficacy Signal Detection of the Marder PANSS Negative Symptom Factor**

*Poster Presenter: Courtney Zeni*

*Lead Author: Kenneth Koblan*

*Co-Authors: Sasagu Tomioka, Stephen R. Marder, M.D., Seth Hopkins*

#### **SUMMARY:**

**Background:** In clinical trials of schizophrenia, the Positive and Negative Syndrome Scale (PANSS) is the most widely used measure to assess efficacy. In studies attempting to demonstrate specific efficacy in the treatment of negative symptoms in schizophrenia, patients are often selected based on the severity of their Marder PANSS Negative Symptom (MPNS) factor. We present here an alternative enrichment strategy designed to address some of the limitations of standard severity approaches to enrichment in treatment studies targeting negative symptoms. **Methods:** Here we present a method to increase the construct validity of the MPNS factor by (1) defining a Marder Negative symptom Heterogeneity Index (MNHI); (2) rank-ordering patients on the MNHI; and (3) Identifying the MNHI score that maximized the amount of variance explained on the MPNS factor, while minimizing variance contributed by other Marder factors. Utilizing pooled data from 12 lurasidone clinical trials and one trial of the novel non-D2-binding TAAR1 agonist, ulotaront (N=4,868), patient-level PANSS item scores between two assessments (screen and baseline) were encoded in

a variance-covariance difference vector that captured intra-item screen-to-baseline variance of each item on the MPNS factor, the covariance between each 2-item pair on the MPNS, and within-patient, screen-to-baseline differences in PANSS items. **Results:** An MNHI score =0.119 was identified as the threshold value that maximized the amount of variance explained on the MPNS factor, with minimal unexplained variance. The enriched sample (limited to patients with an MNHI threshold score =0.119) comprised a subgroup, N=882 (18.1% of the total). In a one-factor model of the total sample (N=4,863), 40% of the variance was explained by the 7 Marder negative symptom items. In contrast, in the enriched subgroup, explained variance increased to 69%. In the enriched subgroup, the resulting MPNS construct had higher construct validity, with improved goodness of fit indices, and therefore was better able to accurately measure the underlying negative symptom domain. In the enriched sample, effect sizes were consistently larger in favor of ulotaront vs. lurasidone on the MPNS factor score (0.84 vs. 0.33), the Uncorrelated PANSS Score Matrix (UPSM) apathy/avolition score (0.74 vs. 0.05), and the UPSM deficit of expression score: 0.52 vs. 0.30. **Discussion:** These results suggest that the proposed enrichment strategy was able to successfully identify a subgroup of patients based on a greater likelihood of having the negative symptom construct that is being measured. These results demonstrate that a pre-randomization enrichment strategy does not non-specifically improve negative symptom effect sizes for all treatments but appears to enhance efficacy signal detection in a drug (ulotaront) with a novel TAAR1 mechanism of action that does not bind to D2 receptors.

### No. 74

#### **Hallucinations and Brain Morphology Across Early Adolescence: A Prospective Neuroimaging Study**

*Poster Presenter: Lisa Reino Steenkamp*

*Co-Authors: Elisabet Blok, Ryan Muetzel, Henning Tiemeier, Steven Kushner*

#### **SUMMARY:**

**Background:** Risk and severity of psychotic disorders have been widely associated with structural brain abnormalities. However, it is unclear whether

structural brain abnormalities are related to psychotic experiences in youth from the general population. In addition, prior studies have been limited by cross-sectional designs. Here we investigated longitudinal associations between brain morphology and hallucinatory experiences from childhood to adolescence. **Methods:** This study was embedded in the population-based Generation R Study, a birth cohort from Rotterdam, the Netherlands. Neuroimaging data were collected at age 10 years and data on self-reported hallucinatory experiences were collected at ages 10 (baseline) and 14 (follow-up) years ( $N=2,042$ ). Generalized linear mixed-effects models were fitted to examine longitudinal associations between brain morphology at baseline and hallucinatory experiences (yes/no) over time. We used a hierarchical approach including multiple testing corrections to examine global brain metrics with region-specific analyses guided by the results of the global associations. All analyses were adjusted for sex, age, maternal education level, and parental national origin. **Results:** Hallucinatory experiences were present in 32.4% of youth at age 10, and declined over time (12.1% at age 14). Higher baseline total gray matter volume, white matter volume, and cortical surface area were associated with larger decreases in the likelihood of hallucinations between ages 10 and 14 ( $OR_{\text{gray matter}}=0.93$ , 95% CI 0.89–0.97,  $p<0.001$ ;  $OR_{\text{white matter}}=0.94$ , 95% CI 0.90–0.99,  $p=0.011$ ;  $OR_{\text{surface area}}=0.93$ , 95% CI 0.89–0.98,  $p=0.002$ ). Follow-up analyses indicated that these associations were widespread across the cortex, including the frontal, parietal, temporal, and occipital lobe, as well as the insula and cingulate cortex. Analyses of subcortical structures revealed that higher baseline hippocampal volumes were associated with larger decreases in the likelihood of hallucinations over time ( $OR=0.94$ , 95% CI 0.90–0.98,  $p=0.003$ ), although this association attenuated after adjustment for intracranial volume. **Conclusions:** The findings from this longitudinal study suggest that global brain structure is associated with incident hallucinatory experiences from childhood to adolescence. These brain features mirror well established findings of the severe end of the psychosis continuum, and provide evidence for a

neurodevelopmental vulnerability to psychotic experiences.

#### No. 75

### High Clozapine Blood Concentration Is Real Risk Factor for QT Prolongation in Patients With Psychosis Using Clozapine.

Poster Presenter: Kyungtae Kim

Co-Authors: Yong Sik Kim, Kyu Young Lee

#### SUMMARY:

**Abstract Background:** Clozapine with other antipsychotics combination is widely used in patients with resistant schizophrenia. Among the adverse effects of antipsychotics, QT prolongation is one of the rare but fatal because it is associated with sudden cardiac death. The purpose of this study is to investigate association between factors and QT prolongation in the patient group using polypharmacy antipsychotics including clozapine, and to confirm whether clozapine's blood concentration can be used as one of the predictor of prolonged QT. **Methods:** Total of 133 with Schizophrenia spectrum disorder who visited the Department of Psychiatry at Nowon Eulji University Hospital was involved in this retrospective chart review study. Demographic variables, QTc from EKG data and drug administration history at the time of examination of all patients were investigated. Antipsychotics dose was converted to olanzapine equivalent dose according to the DDDs. Blood concentration of clozapine within 3 months from the time of EKG QTc were investigated ( $N=94$ ). Chi-square, t-test and ANOVA analyses were conducted on factors related to QT prolongation. Multi-variated regression analysis was used to identify risk factor for QT prolongation. **Results:** There are 64 for men and 69 for women and most of patients were prescribed as clozapine ( $N = 111$ ). The rate of QT prolonged person (QTP) was 31.3% (20), 23.2% (16) in male and female respectively. In the results of comparison between the groups of QTP and non QTP, clozapine dose ( $t=2.595$ ,  $p=0.011$ ), clozapine plasma level ( $t=3.640$ ,  $p<0.001$ ), antipsychotics dose except clozapine ( $t=2.115$ ,  $p=0.039$ ) and antipsychotics total dose including clozapine ( $t=3.021$ ,  $p=0.004$ ) showed significant differences. Finally, the multi-variated logistic regression showed

clozapine blood level has significant association for QTP ( $P=0.018$ ), patients with more over 600 clozapine TDM level has high risk for QTP (adjusted OR 6.5, 95%CI: 1.7 – 25.2,  $P = 0.006$ ) **Conclusion:** In this study, QT prolongation was associated with clozapine dose, total of antipsychotic dose, and blood concentration in patients with clozapine use. In particular, blood concentration of clozapine was real risk factor for patients with prolonged QT.

#### **No. 76**

##### **Sleep Disturbances and Suicidality: Examining the Relationship in an Inpatient Psychiatric Hospital**

*Poster Presenter: Christopher A. Shepard*

*Co-Author: Robert Joseph Boland, M.D.*

#### **SUMMARY:**

Sleep disturbances have been shown to be a risk factor for suicide outcomes (Glenn et al., 2018). One such disturbance is sleep fragmentation (SF), which is defined by repetitive disruptions of sleep (Smurra et al., 2001). In an inpatient psychiatric hospital, patients are subjected to safety checks every 15 minutes (e.g., Q15 checks). This leads to a dangerous spiral of Q15 checks, increased sleep disturbance/(SF), and possible increased suicidal risk (Gazor et al., 2020). Wearable technology, that utilizes objective metrics for sleep, activity, and heart rate/heart rate variability, could be a solution to reverse this spiral by minimizing or eliminating the need to conduct these checks, reducing sleep disturbance/SF, and decreasing suicide risk (Johnson et al., 2021). To investigate these relationships, the current study examined subjective and objective data from a pilot study implemented at an intermediate length of stay inpatient psychiatric hospital. Participants were 12 adult inpatients between the ages of 18 and 36 ( $M = 23.9$ ; 58.3% female). Suicide risk was assessed with the Suicide Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001). This measure was collected at admission, weekly, and at discharge. Objective sleep was measured with the ActiGraph wGT3X-BT activity monitor (ActiGraph, LLC, Pensacola, FL, USA). Objective variables measured with actigraphy were total sleep time (TST) and the number of nighttime awakenings. Actigraphy was measured 24/7 on average 5.3 weeks through their length of stay. Q15

check data (i.e., frequencies of Q15 checks) was obtained through the hospital's Electronic Health Record (EHR). The frequency of the Q15 checks during sleep were reconciled with the sleep period from the actigraphy data. Using the cutoff score of 8 (Osman et al., 2001), patients were split into two groups based on their discharge SBQ-R score: Low Suicide Risk (LSR;  $M$  score = 3.4) and High Suicide Risk (HSR;  $M$  score = 10.4). The LSR group contained seven inpatients and the HSR group five. The HSR group demonstrated increased TST (admission  $M = 518$  mins; discharge  $M = 568$  mins), Q15 checks (admission  $M = 26.7$  checks/night; discharge  $M = 27.9$  checks/night), and nighttime awakenings (admission  $M = 15.1$ ; discharge  $M = 16.4$ ) throughout their length of stay. The LSR group also showed increased TST (admission  $M = 437$  mins; discharge  $M = 512$  mins) and an increase in Q15 checks (admission  $M = 27.2$ ; discharge  $M = 28.4$ ), but nighttime awakenings decreased from admission ( $M = 18.8$ ) to discharge ( $M = 16.4$ ). Initial findings from these pilot data suggest that HSR patients do not habituate to Q15 and the sleep fragmentation or repetitive sleep disturbance that occurs due to these safety procedures for inpatient psychiatry. Further research is needed in this population to begin to quantitatively describe the Safety-Sleep-Suicide Spiral (Johnson et al., 2021) and develop new safety solutions (e.g. wearable technology) that improve suicide outcomes.

#### **No. 77**

##### **Suicide, Stimulants, and SSRIs: A Retrospective Chart Review**

*Poster Presenter: Reena Thomas, M.D.*

*Co-Authors: Austin Sellers, M.S., Jamie Fierstein, Ph.D., Mark Cavitt, M.D., M.P.A., Jeffrey Alvaro, M.D.*

#### **SUMMARY:**

**Background:** Suicide has been the 2<sup>nd</sup> leading cause of death among children and young adults from 10-24 years since 2012<sup>1</sup>. Although studies have demonstrated various risk factors for suicide<sup>2</sup>, including potentially Selective Serotonin Reuptake Inhibitor (SSRIs) medication class<sup>3</sup>, the association of suicide risk with combined pharmacotherapy of common medications, such as SSRIs and stimulants, remains unclear. We aim to assess whether

suicidality varies when SSRI medication class was combined with stimulant medication class. **Methods:** A retrospective cohort study was conducted of patients from Johns Hopkins All Children's Hospital (JHACH) ambulatory psychiatric clinic between the time period of 9/1/2017 through 9/30/2020. Patients included were 6-21 years of age and prescribed stimulants or stimulants and SSRIs only. The primary outcome measure was suicidality defined by suicidal thoughts, plans, or behaviors. Firth logistic regression models evaluated unadjusted and adjusted associations between medication class and suicidality. **Results:** The analytic sample included 349 patients. Among patients on combination medications, the prevalence of suicidality was 66.67% whereas the prevalence among those on stimulants was 33.33%. In the unadjusted model, patients prescribed SSRIs and stimulants had 3.54 times the odds (Unadjusted OR: 3.54, CI: 1.30-9.64) of suicidality in comparison to patients prescribed stimulants. After adjustment for genetic sex, age, and psychiatric diagnosis (i.e. anxiety/depression), medication class was not significantly associated with suicidality (Adjusted OR[AOR]: 1.37, CI: 0.33-5.66). Diagnosis of depression was significantly associated with suicidality (AOR: 4.35, CI: 1.11-17.03). **Conclusions:** Medication class and suicidality were not significantly associated after adjustment for covariates. This suggests that other factors, including depression diagnosis, may account for the variability in suicidality. However, larger prospective studies are warranted to guide clinical/pharmacological decision making and to help further clarify these important relationships. Funding was obtained from JHACH clinical and translational research training program for this study.

#### No. 78

##### **Insecure Attachment Styles in Adolescent-Parent Relationships as a Predictor of Suicidal Behaviors**

*Poster Presenter: Julia Myerson*

*Co-Authors: Tiffany Tran, B.S., Katrina Rufino, Ph.D., Michelle Patriquin, Ph.D.*

##### **SUMMARY:**

Suicide is the second leading cause of death among individuals between the ages of 10 and 24 in the

United States (CDC, 2019). Attachment styles are an important predictor of suicidality (Sharif et al., 2018). Prior research has shown a link between insecure attachment and suicidal behaviors (Sheftall et al., 2014; Miniati et al., 2017). The current study examined the relationship between insecure attachment and suicide-related behaviors in adolescents. Participants were 690 adolescents admitted to an inpatient psychiatric hospital ( $M=15.13$ , 62% female). Attachment was assessed using the Relationship Structures Questionnaire. Suicide risk was evaluated using the Suicide Behaviors Questionnaire-Revised. Suicide related behaviors (attempts and nonsuicidal self-injury [NSSI]) were measured using the Self-Injurious Thoughts and Behaviors Interview. ANOVAs were used to compare parental attachment styles across various suicide related outcomes. Results revealed there were significant differences in suicide risk at admission across attachment styles towards one's mother [ $F(3,327)=6.439, p<.001$ ] and father [ $F(3,322)=6.210, p<.001$ ]. Post hoc tests revealed that patients with secure maternal attachment ( $M=10.27, SD=4.20$ ) had significantly lower suicide risk than patients with preoccupied ( $M=12.40, SD=3.54$ ), dismissive ( $M=12.05, SD=4.02$ ), and fearful attachment ( $M=12.53, SD=4.58$ ). Post hoc tests also revealed that patients with secure paternal attachment ( $M=10.23, SD=4.46$ ) had significantly lower suicide risk than patients with preoccupied ( $M=12.27, SD=4.74$ ), dismissive ( $M=11.95, SD=3.77$ ), and fearful attachment ( $M=12.57, SD=3.77$ ). Chi Square tests were utilized to compare parental attachment styles to NSSI. Results of an omnibus test revealed a significant association between maternal attachment and a history of NSSI [ $\chi^2(3)=11.19; p=.011$ ]. Follow up analyses revealed significant individual chi-square tests for secure maternal attachment and NSSI [ $\chi^2(1)=10.76; p=.001$ ]. Next, results revealed a significant association between paternal attachment and a history of NSSI [ $\chi^2(3)=13.45; p=.004$ ]. Follow up analyses revealed significant individual chi-square tests for secure paternal attachment and NSSI [ $\chi^2(1)=11.97; p<.001$ ] and paternal fearful attachment and NSSI [ $\chi^2(1)=6.10; p=.014$ ]. Overall, results indicate that adolescents with insecure attachment styles are at a greater risk for suicide and NSSI than adolescents with secure attachment styles. Insecure maternal

attachment styles were significantly related to suicide attempts. Adolescents who endorsed NSSI were less likely to have secure attachment to their parents and were more likely to have fearful attachment to their fathers. These results provide further evidence of attachment styles as a predictor of suicide-related behaviors and suggest potential therapeutic targets for family-based interventions.

#### **No. 79**

##### **Relationship Between Suicide Attempts and Emotion Regulation**

*Poster Presenter: Cameron Johnson*

*Co-Authors: Hyuntaek Oh, Danna Ramirez*

##### **SUMMARY:**

Suicide has been steadily increasing in prevalence according to data collected by the National Center for Health Statistics (Hedegaard et al, 2020). Finding ways to reduce risk factors and develop models to conceptualize vulnerability to such risk factors is imperative to produce effective interventions (Swee et al, 2020). Unfortunately, there is still a lack of resources in the scientific literature about what is contributing to the proliferation of suicide-related attempts and deaths. Emotional precursors in people with psychological disorders should draw special attention because the ability or lack thereof to monitor and modify emotional states could play a major role in managing the psychological pain that could lead to a suicide attempt (Valois et al., 2015; Hatkevich et al, 2018). We examined the Difficulties in Emotion Regulation Scale Short Form (DERS-SF) and Self-Injurious Thoughts and Behaviors Interview (SITBI) self-reported responses from 916 adult patients admitted to an inpatient psychiatric hospital. We separated the responses into three groups: (1) a suicide attempt within the past on the SITBI (Attempt Within Year), (2) attempted suicide previously but not within the past year at the time surveyed (Attempt a Year or More in Past), and (3) no reported history of a suicide attempt (No Attempt). We then analyzed the corresponding data for significant differences on the DERS-SF responses between the three subject categories. One-way analyses of variance demonstrated a significant difference in DERS-SF total score ( $F(2,914)=11.39, p < .001$ ) between all attempt groups. More

specifically, significant differences were found between No Attempts ( $M=46.51, SD=14.08$ ) and both Attempts within the Year ( $M=51.47, SD=13.99, p<.001$ ) and Attempt a Year or More in Past ( $M=50.92, SD=13.50, p=.002$ ). For the Strategies subscale ( $F(2,913)=14.74, p < .001$ ), there were significant differences between the No Attempt group ( $M=7.82, SD=3.50$ ) and the Attempt Within Year group ( $M=9.05, SD=3.51, p<.001$ ) and Attempt a Year or More in Past group ( $M=9.34, SD=3.45, p<.001$ ). For the Awareness subscale ( $F(2,916)=4.56, p=.011$ ), there was a significant difference between the No Attempt group ( $M=7.25, SD=3.05$ ) and the Attempt Within Year group ( $M=8.03, SD=2.94, p=.003$ ). One reason for the lack of a significant difference between the Attempt A Year or More in Past group and Attempt Within Year groups may be that the timeframe used inappropriately operationally define the groups. Another explanation may be that the subject pool consisted of hospitalized patients that continued to have mental health issues when surveyed. Future research could examine the optimal timeframe for analysis or dig deeper into the other differences between the three groups.

#### **No. 80**

##### **Trends in Suicidal Thoughts and Behaviors and Substance Use Among U.S. Youth From 1991 to 2019**

*Poster Presenter: Wenna Xi, Ph.D.*

*Co-Author: Michael Hennig*

##### **SUMMARY:**

Background Studies have found strong associations between suicidal behavior and substance use among US adolescents. In the past two decades, substance use prevalence decreased while suicidal behavior prevalence increased. Understanding the trend of the association between suicidal behaviors and substance use is essential to inform prevention efforts and public health policy. Methods Data was obtained from 217,340 U.S. high school students through biennial, nationally representative surveys from 1991 to 2019 using the Youth Risk Behavior Surveillance System (YRBSS). Suicidal thoughts and behavior variables from the YRBSS dataset included suicide ideation (SI), suicide planning (SP), suicide

attempt (SA), and severe suicide attempt (SSA). Substance use variables included cigarettes, vaping products, chewing tobacco, cigars, alcohol, marijuana, synthetic marijuana, prescription pain medication, cocaine, inhalants, heroin, methamphetamine, ecstasy, steroids, and illegal injections. Odds ratios calculated biennially from weighted logistic regressions summarized the association between each combination of suicide- and substance use-related variables. A joinpoint regression analysis summarized the trend of the association between suicide- and substance use-related variables. Results SI had the strongest associations with inhalants (OR ranges: 3.10-4.27), heroin (4.40-6.07), methamphetamine (3.86-4.99), steroids (2.91-5.25), and illegal injections (4.35-7.96). SP also had the strongest associations with inhalants (3.37-4.15), heroin (4.62-7.08), methamphetamine (3.79-5.65), steroids (3.03-5.53), and illegal injections (4.36-12.33). SA had the strongest associations with heroin (9.49-19.79), methamphetamines (6.07-12.13), steroids (5.26-21.83), illegal injections (17.66-43.04), and cocaine (4.80-8.03). SSA had the strongest associations with heroin (17.27-39.32), methamphetamine (10.71-30.53), ecstasy (9.12-18.16), steroids (8.11-21.83), and illegal injections (17.66-43.04). Joinpoints were detected for the trends of association of SP with methamphetamine and steroids. All other associations had no joinpoints, so a linear model was generally a good fit. The association of SA and methamphetamine had the strongest biennial percent change (BPC) of 2.80. From 1991 to 2009 there was a strong positive BPC of 3.76 for SP and methamphetamine, but from 2009 to 2019 there was a negative BPC of -1.90. Finally, the association of SP and steroid had a moderate positive BPC of 1.52 from 1991 to 2007, after which there was a strong negative BPC of -7.04 until it turned to a strong positive BPC of 8.98 from 2013 to 2019. Conclusions Hard drugs had strong associations with all aspects of suicide, most notably SSA with heroin and illegal injections. We also observed a sudden, strong, positive BPC for the association of SP and steroids in 2013. These results can help identify risk factors of suicidal thoughts and behaviors and impact prevention efforts and public health policy.

## No. 81

### Exploring a Possible Correlation Between Adverse Childhood Events and Suicidality in a Predominantly Underserved Latinx Population

Poster Presenter: Felix Amirfathi

Co-Authors: Claudia Perez, Aisa Moreno-Megui, Caitlin Sherman, M.D.

#### SUMMARY:

**Background:** Suicide ideation and behavior among U.S. Latinx individuals has increased notably in the last decade, especially among youth.<sup>1</sup> And yet, risk factors and prognostic mediators within this specific population remain understudied. Significantly higher rates of adverse childhood events (ACEs) have been reported among Latinx individuals compared to the general U.S. population.<sup>2</sup> In the general population, exposure to 4 or more adverse childhood events (ACEs) is associated with 4.7 times the risk of developing depression and 37.5 times the risk of attempting suicide.<sup>3</sup> It has been estimated that 1 in 3 suicide attempts in the U.S. is attributable to childhood adversity.<sup>4</sup> The current study therefore aimed to explore the association between ACE exposure and suicide attempts within a lower-income, uninsured, primarily Latinx patient population. **Method:** 33 adult participants with a primary diagnosis of major depression or persistent depressive disorder were recruited from a hospital-based outpatient psychiatric clinic in the greater Los Angeles area. ACE exposure was assessed using the Adverse Childhood Experiences Scale, administered as a part of a larger telephone interview that also aimed to quantify depressive symptom severity (PHQ9), treatment resistance (Maudsley Staging Method), and past suicide attempts. **Results:** Participants were predominantly female (78%), Latinx (76%), unemployed (64%), lower income, and uninsured, with a mean age of 40.8 years (SD 11.6). Average ACE number was 4.3 (SD 3), with 51% of participants reporting exposure to 4 or more ACEs. While the number of ACEs had no statistically significant association with depression symptom severity ( $p=0.3$ ) or treatment resistance ( $p=0.993$ ), ACE number was associated with previous suicide attempts (logistic regression:  $X^2 = 4.3$ ,  $df = 1$ ,  $p = 0.011$ ). The odds ratio for 4 or more ACEs on suicide attempt was 3.76. Conclusion: The preliminary data replicates previous reports of a higher number of



ACEs among Latinx individuals and demonstrates a significant correlation between ACE history and previous suicide attempts. This correlation warrants further exploration, as ACE screening tools might help address the rising suicide rates among young Hispanic individuals in the U.S. Of note, this study's preliminary odds ratio for suicidality in participants with high ACE scores was 3.76, lower than the odds ratio of 37.5 reported in the general population.<sup>3</sup> This observed lower effect creates opportunities for future investigation. It may be that this study's participants had all already been diagnosed with a depressive disorder and were thus at higher risk for suicidality, independent from their ACE exposure. Other possible explanations include an imperfect screening tool for this minority population, a failure to capture adulthood adverse events, or a previously hypothesized increased psychological resilience among immigrant populations.<sup>5</sup>

#### **No. 82**

##### **Digital Mental Health in a Global Cross-Cultural Context: Patient, Family and Clinicians Focus Group Study in India and the United States**

*Poster Presenter: Tanvi Lakhtakia, B.A.*

*Co-Authors: Elena Rodriguez-Villa, John Torous, M.D.*

#### **SUMMARY:**

Despite significant advancements in healthcare technology, digital health solutions – especially those for serious mental illnesses – continue to fall short of their potential across both clinical practice and efficacy. The increased use of smartphones across socioeconomic lines facilitates the expansion of digital health solutions in a global context. However, the utility and impact of digital medicine hinges on relationships, trust, and engagement, particularly in the field of mental health. This poster presents results from the first phase of a multi-site global study, with the aim to design a cross-cultural digital mental health platform by interviewing people with schizophrenia, their family members, and clinicians in the United States and India. Across three sites, focus groups (n=20) of two to six participants were engaged in open-ended questions and discussions about smartphone use. Upon showing them the mindLAMP platform, specific feedback was also collected about its functionality,

and accessibility. Thematic analysis of their responses indicates three common themes: increased use and interest in technology during COVID-19, concerns over how data is used and shared, and a desire for concurrent human interaction to support app engagement. People with schizophrenia, their families, and clinicians are open to integrating smartphone solutions into treatment to better understand their condition and help inform treatment. However, app engagement is dependent on technology that is complementary – not substitutive – of therapeutic care from a clinician.

#### **No. 83**

##### **Interpreting Networks of Smartphone-Captured Behaviors and Self-Reported Mental Health Symptoms in the Context of App-Based Interventions**

*Poster Presenter: Ryan Hays*

#### **SUMMARY:**

Digital health apps are capable of capturing users' self-reported mental health symptoms and sensor-derived behaviors on a *moment-by-moment* basis. Many apps can provide clinical interventions in an effort to reduce acute symptoms and to improve long-term prognosis for those with serious mental illness (SMI). Using the mindLAMP app, we combined both digital phenotyping and real-time interventions in one platform and provided it to patients with SMI (e.g. schizophrenia, bipolar disorder, and MDD) and to college students who were either non-symptomatic or experiencing prodromal symptoms. After having subjects use the app for 1-12 months, we performed generative modeling to explore the interactions of elevated self-reported symptoms with various digital biomarkers, both preceding and following interventions completed in the app. Here we show the heterogeneity of behavior/symptom networks across these populations and how they are currently being used in a clinical setting to treat psychiatric outpatients in the Boston metro area.

**No. 84**

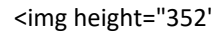
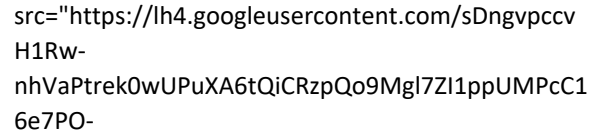
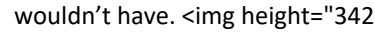
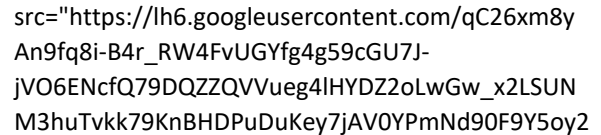

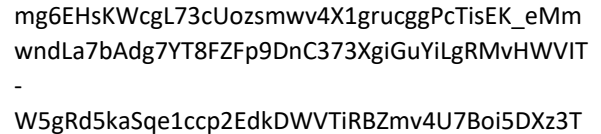
**Ultrasound-Guided Stellate Ganglion Block With Contrast as Supplemental Therapy for PTSD - Case Series**

*Poster Presenter: Allen Wayne Bell, M.D.*

*Co-Author: Stephen Rodriguez, M.D.*

**SUMMARY:**

Background: 50% of Post-traumatic stress disorder (PTSD) patients experience symptoms longer than 3 months. The gold standard of treatment for PTSD is prolonged exposure and cognitive processing therapy<sup>2</sup>. The efficacy of treatment is predicated on patients processing trauma which exacerbates symptoms leading to avoidance or disengagement. In an effort to improve therapy, medications have been used for symptom control. Stellate ganglion blocks (SGBs) are being used in VA and military settings to provide transient improvement in symptoms allowing patients to continue in therapy. The use of SGBs in the treatment of PTSD is gaining popularity, but has yet to gain widespread adoption despite being used to treat psychiatric conditions since 1947<sup>1</sup>. The military has been quicker to adopt SGBs as treatment due to the high prevalence of PTSD among servicemembers, which is twice that of civilians<sup>3</sup>. They offer rapid relief, which is crucial during combat, and can last up to 3 months. The mechanism of how SGB benefits PTSD patients is poorly understood. Evidence points to epigenetic changes in brain-derived neurotrophic factor as the mechanism<sup>7</sup>. Two randomized controlled trials (RCT) were performed in military populations with mixed results. The earlier RCT showed equivocal results when compared to saline<sup>4</sup>; however, it had limitations such as suboptimal patient population with a conflict of interest, ratio of patients in study arms, and low power<sup>5</sup>. A more recent multi-site RCT showed clinically significant positive benefit at 8 weeks<sup>6</sup>. **Methods:** Following psychiatric evaluation and diagnosis, three patients were referred to a pain clinic in a tertiary care center. The patients received ultrasound guided SGBs using 7-9 mL of 0.5% ropivacaine. Injection was performed at the C6 level, which was confirmed with spread of contrast dye. PTSD Checklist for DSM-5 (PCL-5) was used before and after to evaluate for symptom improvement. Two patients reported subjective benefit post-procedure and one patient reported equivocal

results. **Clinical Presentation:** 44 F receiving SGBs since Aug 2020 with 4-6 week benefit. Refractory to pharmacotherapy and psychotherapy. Pre-procedure PCL-5: 54. Post-procedure (2 weeks): 48.   46 M post-TBI patient who received SGB for PTSD. Pre-procedure PCL-5: 49. Post-procedure (~8 weeks): 47. Reported no significant change but able to engage in therapy he otherwise wouldn't have.   47 M PTSD since June 2020. Refractory to psychotherapy and zoloft leading to removal from job position due to decreased work performance. Pre-procedure PCL-5: 51. Post-procedure (~3 weeks): 42.   Conclusion: PTSD is a complex disorder that is difficult to treat and can lead to terminal consequences. Data regarding short-term benefit of SGBs is growing and overwhelmingly positive when used appropriately as an adjunct. Considering the chronic nature of PTSD, SGBs may be an effective supplemental therapy with psycho- and pharmacotherapy. DOD Disclaimer needs to be attached\*\*

**No. 85**

**The Effects of Psychedelic on Sleep in Patients With Psychiatric Conditions: A Systematic Review**

*Poster Presenter: Sarah Tedesco*

*Co-Authors: Payton Colantonio, Nicole Andrle, Layth Lewis*

**SUMMARY:**

**Serotonergic agonists like psilocybin, 3,4-Methylenedioxymethamphetamine (MDMA) and Ketamine may interact with sleep like other antidepressant drugs. The most consistent effects of SSRIs, TCAs, serotonin and norepinephrine reuptake inhibitors (SNRIs), and monoamine oxidase inhibitors (MAOIs) have been reported on rapid-eye movement (REM) sleep in terms of reduced duration and increased latency, both after acute and chronic use. Because of its general safety, intermediate duration of action, and therapeutic potential in several neuropsychiatric disorders, Psilocybin, Ketamine and MDMA are currently the most intensely studied psychedelics in clinical trials. We are investigating the changes that occur during the sleep cycle after controlled treatment with psychedelic assisted therapy in patients with psychiatric related conditions. We hypothesize that the antidepressant properties of these substances will reduce rapid eye movement (REM) sleep and prolonged REM latency.**

No. 86

**“Motherhood during COVID-19: The Impact of the Pandemic on Maternal-Infant Bonding and Mental Health Symptoms in Perinatal Women.”**

*Poster Presenter: Matthew Lewin*

**SUMMARY:**

**Purpose:** COVID-19 has imposed new challenges to an already demanding period for perinatal women. Perinatal women with fewer resources during this time are especially at risk for stressful experiences. Current literature is only beginning to explore associations between the challenges and impacts of the COVID-19 pandemic on levels of stress and mental health outcomes in perinatal women. Building on evidence that perinatal stress is associated with adverse maternal and infant outcomes, we explored associations between pandemic-related impacts on several life domains and adverse mother-infant bonding. **Methods:** Women (N=388) who gave birth between March 2020 and August 2021 completed a cross-sectional, online survey that included measures of pandemic-related stress including the Epidemic-Pandemic Impacts Inventory (EPII), EPII Bonding Risk Index, and

EPII Perinatal Modules. Screening measures for Depression (PHQ-9), Anxiety (GAD-7) and PTSD (Brief PTSD PCL-5) were included in the online survey. The sample (Mean Age = 32.7, SD=4.3) self-identified as White (81%), Asian (6%), Black (6%), biracial (5%) and “other” (2%). One-fifth identified as Hispanic/Latina. Most had partners (93%), were employed (80%) and reported having commercial insurance (76%). **Results:** Linear regression revealed that greater pandemic-related impacts on labor and delivery, separation/distancing from their infants, and isolation/quarantine were predictive of bonding risk ( $\beta=.12-.23, p<.01$ ). Top-tertile bonding risk scores were associated with clinically significant Anxiety, Depression or PTSD {Odds ratio = 5.4(2.8-10.1),  $p<.01$ }. There was a positive predictive value of 63% of high bonding risk in relation to maternal mental health risk. **Conclusions:** Our measures of mother-infant bonding difficulty during the COVID-19 pandemic may serve to inform targeted interventions that protect at-risk mother-infant units, in addition to identifying mothers who experience adverse mental health outcomes.

No. 87

**Breast Cancer Screening Among Publicly Insured Women With Schizophrenia**

*Poster Presenter: Alison R. Hwang, M.D., Ph.D.*

**SUMMARY:**

Background: Women with serious mental illness, such as schizophrenia, are diagnosed with breast cancer at later stages, with larger tumor sizes and more lymph node involvement. This finding suggests that women with schizophrenia do not receive timely screening mammography. There is a need to examine screening mammography rates among publicly insured women with schizophrenia across the United States. **Methods:** This is a retrospective longitudinal cohort study examining variation of screening mammography rates for women with schizophrenia compared to frequency-matched controls across US states. We used Medicaid Analytic eXtract (MAX) data from the Center for Medicare & Medicaid Services from 41 states, with claims from January 1, 2007 to December 31, 2012. Equal-sized control groups of frequency-matched controls without mental illness were randomly selected

within strata defined by age, race/ethnicity, and state. We compared the cohort with schizophrenia to the frequency-matched control cohort to evaluate differences in screening mammography rates and determine whether differences are moderated by demographics, co-morbidities or health care utilization. Results: The screening mammography rate in 2007 was 22.2% for both cohorts, and in 2012 was 27.2% for the schizophrenia cohort and 26.8% for the control cohort. Both groups show increasing rates of completed mammography screening from 2007 to 2012, a rise of 4.96% and 4.62%, respectively, for the schizophrenia and control cohorts. The largest rate difference between the cohorts was 0.94 percentage points ( $p < .001$ ). Annual screening rates varied across states, from 14.0% to 39.0%. Among women with schizophrenia, American Indian or Alaskan Native race was associated with lower odds of completing mammography (OR=.82, 95% CI .70-.97,  $p = .02$ ) while Hispanic or Latino ethnicity was associated with higher odds of completion (OR=1.16, 95% CI 1.11-1.21,  $p < .001$ ). Compared to women ages 60-64, women ages 40-49 had lower odds of completing mammography (OR=.89, 95% CI .85-.92,  $p < .001$ ) while women ages 50-59 had higher odds (OR=1.05, 95% CI 1.01-1.09,  $p = .02$ ) within the schizophrenia cohort. For women with schizophrenia, a comorbid diagnosis of a substance use disorder was associated with lower odds of receiving breast cancer screening (alcohol OR=.81, 95% CI .76-.87,  $p < .001$ ; other substance use OR=.74, 95% CI .72-.77,  $p < .001$ ). Women with schizophrenia who had at least one medical visit in the past year had 508% higher odds of receiving breast cancer screening than women with schizophrenia without a medical visit (OR=5.08 95% CI 4.84-5.33,  $p < .001$ ). Conclusion: While screening mammography rates between women with and without schizophrenia appear comparable, they are still much lower than guidelines recommend. Wide state-level variation in mammography screening rates was found for women with schizophrenia and should be examined more closely.

#### **No. 88**

#### **Intimate Partner Violence in Saudi Arabia, Recent Trends and Call for Action**

*Poster Presenter: Fatimah Albrekkan, M.D.*

#### **SUMMARY:**

Intimate partner violence (IPV) is one of the most common acts of violence against women worldwide. It affects 1 to 4 women in the US, occurring in all socioeconomic, religious, and cultural groups. IPV is not widely researched in the Middle East, and Saudi Arabia is no exception. A study conducted in 2012 amongst women attending health care centers in Alexandria, Egypt, showed that 77% of women reported experiencing IPV. Another study conducted in two large cities in Jordan found that lifetime prevalence rates of emotional, physical, and sexual abuse were 39, 30, and 6%, respectively. In Saudi Arabia, IPV has recently gained national attention and is recognized as a public health and human right issue. Recent studies in Saudi Arabia reported a lifetime prevalence of IPV of 33 to 45%. However, accurate estimation of the prevalence of IPV remains problematic due to the lack of a nationwide prevalence survey and the cultural sensitivity of exploring this issue. Risk factors associated with IPV include socioeconomic status, education level, polygamy, alcohol abuse, growing up with IPV, and experiencing childhood abuse. Recently, the role of women in Saudi society has been a prominent topic of discussion, and violence against women has been penalized. In combating any forms of IPV toward any individual, Saudi Arabia's "Law of Protection from Abuse" issued in 2013 aimed to protect individuals from physical, psychological, and sexual abuse by providing immediate assistance, including accommodations, health and psychiatric care, and legal assistance to victims. The regulations impose strict fines on abusers with a minimum of \$1,330 and 30-days jail time to a maximum of \$13,300 and one-year imprisonment. During the COVID-19 pandemic, reports indicated a skyrocketing in IPV incidents worldwide. Interestingly, this trend has not been observed in Saudi Arabia. A recent study in 2021 found an overall decrease of 8.8% in the reported cases of IPV in Saudi Arabia. Women in Saudi Arabia may be afraid to report IPV incidents because of shame and fear of retaliation from their abusive partners. Measures to minimize the spread of COVID-19 like lockdowns, stay-at-home orders, and social isolation have had a tremendous impact on families experiencing IPV and might limit the reporting of IPV cases. Thus, raising awareness about IPV among mental health professionals in Saudi Arabia,

including early detection and provision of appropriate services, is vitally important. In this study, we discuss the recent trends of violence against women in Saudi Arabia and the impact of COVID-19 on reporting IPV incidents. We explore possible IPV identification and support strategies to provide avenues of safe communication with women experiencing violence.

#### **No. 89**

##### **Is Higher Education Worth the Stress? Differences in Black Women's Allostatic Load by Educational Attainment**

*Poster Presenter: Rishab Chawla, B.S.*

*Lead Author: Brittany Williams, Ph.D.*

*Co-Authors: Christian Laurent, B.A., B.S., Justin Moore, Ph.D.*

#### **SUMMARY:**

**Background:** Allostatic Load (AL) is thought of as cumulative psychosocial stress resulting in biological dysregulation or "weathering." Higher AL has been associated with a range of physical and cognitive diseases such as cardiovascular disease and memory decline. Research suggest that non-Hispanic Black (henceforth, Black) women and people with lower educational attainment have higher levels of AL, but these factors are rarely co-examined. This study sought to determine the association between educational attainment and AL among a large sample of Black woman. **Methods:** Data among 4,113 Black women from the National Health and Nutrition Examination Survey (NHANES) years 1999-2018 was analyzed. Allostatic load score was defined as the total for abnormal measures of eight biomarkers. Participants were further categorized with AL score greater than or equal to 4 as having high AL. Mean estimates of total AL scores were calculated using generalized linear models. Log-binomial regression models were performed to estimate prevalence ratios (PRs) of high AL and their associated 95% confidence intervals (CIs) by educational attainment. **Results:** Black women with a college degree had the lowest prevalence of high AL (31.8%), and age-adjusted mean AL scores (mean = 1.90, 95% CI = 1.80 – 2.01) when compared to Black women with lower educational attainment (some college, a high school diploma, and less than a

high school diploma). In further age-adjusted models, Black women with a college degree had a 24.2% reduced prevalence for high AL (PR = 0.758, 95% CI = 0.756 – 0.761) when compared to Black women with less than a high school diploma. Even after accounting for age, poverty-to-income ratio, smoking, ever congestive heart failure, and ever heart attack, Black college graduates had an 18.2% reduced prevalence of high AL (PR = 0.818, 95% CI = 0.815 – 0.821) when compared to Black women with lower educational attainment. **Conclusions:** Black women with a college degree had lower allostatic load compared to Black women with lower educational attainment. Further investigation is warranted to understand if higher education attainment generally, or skills developed within higher education environments, contribute to lower AL among Black women. This research was supported by the National Institute on Minority Health and Health Disparities of the National Institutes of Health under Award Number K01MD015304. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

#### **No. 90**

##### **Eating Disorders Among College Students during the COVID-19 Pandemic: A Narrative Review**

*Poster Presenter: Jessica M. Haddad, M.D.*

*Co-Authors: Alison Mosier-Mills, Rachel Christine Conrad, M.D.*

#### **SUMMARY:**

**Background:** The COVID-19 pandemic has had tremendous impacts on mental health across the globe, particularly among college students [1-3]. Whereas increased rates of anxiety and depression have been clearly established [4], there is limited data on how eating disorders have been affected by the pandemic. Thus, the purpose of this narrative review is to explore the impact of COVID on disordered eating in college students. **Methods:** This is a narrative review of the existing literature regarding eating disorders among college students during the COVID-19 pandemic. A search of the PubMed electronic database was undertaken using all combinations of the following search terms:

Coronavirus, COVID-19, 2019-ncov, SARS-cov-2, College, University, and Eating disorder. Inclusion criteria included: (1) Original research, (2) English language, (3) Included COVID-specific data, (4) Included data on disordered eating, (5) Exclusive to college students. **Results:** A total of 103 articles were retrieved. Articles were manually screened by title and abstract while considering the inclusion criteria, which resulted in removal of 98 articles. The remaining 5 articles were all original studies related to disordered eating among college students during the COVID-19 pandemic. One interventional study of female university students at risk of developing an eating disorder found that those who entered the trial during COVID had significantly more baseline weight concerns and disordered eating than those who entered before COVID [5]. A German survey study found that having higher perceived stress, higher experienced loneliness, lower social support, less social contact, and lower self-efficacy significantly predicted higher scores of eating disorder symptoms among college students [6]. Moreover, being a parent was inversely associated with eating disorder symptoms. A longitudinal survey study found that while rates of bulimia nervosa and binge-eating disorder increased during the pandemic, anorexia nervosa did not [7]. This might be explained by reduced activity, stockpiling of groceries, difficulty abstaining from food while at home, and using food as a coping mechanism for negative affective states [7,8]. Somewhat contrarily, another study found that disordered eating frequency was higher for students with food insecurity compared with individuals without [9]. In sum, the pandemic appears to be associated with disordered eating, but the strength of this association is affected by a variety of moderating factors. **Conclusion:** This literature review explored the impact the COVID pandemic on eating disorders among college students. We found that disordered eating increased during the pandemic, likely related to food availability and compensation for negative affective states. There are likely additional moderating variables, not accounted for in the included studies, that explain the relationship between the pandemic and disordered eating among college students.

## No. 91

### **Informed Consent as a Barrier to Electroconvulsive Therapy in the Management of an Incapacitated Patient With Malignant Catatonia**

*Poster Presenter: Ryan C. Engert*

*Co-Authors: Tara S. Lowe, M.D., Karen Kwok, M.D., Cristina Montalvo, M.D.*

#### **SUMMARY:**

**Background** Catatonia is a syndrome of psychomotor abnormalities including symptoms of waxy flexibility, stupor, mutism, negativism, and echolalia. Malignant catatonia is a potentially lethal form of catatonia characterized by fever, autonomic instability, delirium, and catatonic features for which emergent electroconvulsive therapy (ECT) is first-line treatment. Regardless of the urgency in care required, many states have legal barriers that delay ECT treatment when catatonic patients are unable to consent which places them at undue risk. **Case** A 52-year-old woman with bipolar disorder type I and restless leg syndrome presented as a transfer from an outside hospital (OSH) with symptoms concerning for catatonia. At the OSH, she initially received olanzapine and quetiapine for confusion and agitation. Despite receiving antibiotics for a urinary tract infection, she experienced worsening confusion and leukocytosis. She also developed new mutism, muscle rigidity, fever, and hypertension. Antipsychotics were held, and she was started on lorazepam then diazepam for concern of catatonia versus neuroleptic malignant syndrome. She was transferred to our facility on hospital day (HD) 18 with a Bush-Francis Catatonia Rating Scale (BFCRS) score of 16 for immobility, mutism, staring, echolalia, verbigeration, waxy flexibility, and dysautonomia. Magnetic resonance imaging (MRI) brain revealed posterior reversible encephalopathy syndrome thought to be related to dysautonomia. The patient did not tolerate increasing doses of benzodiazepines due to hypotension and had minimal improvement in her catatonia symptoms, so ECT was proposed on HD 23. She lacked capacity to consent to ECT and did not have a documented healthcare proxy, although her husband agreed with pursuing ECT. In accordance with Massachusetts law, we filed for guardianship of the patient on hospital day (HD) 27. On HDs 30-31, her BFCRS score peaked at 19, and she was febrile to 39.1°C without signs of

infection raising concern for malignant catatonia. Emergent ECT was initiated on HD 31 prior to court authorization and guardianship, which occurred on HD 32. By HD 34, the patient followed simple commands and talked in short phrases. On HD 66, MRI showed resolution of prior abnormalities. On HD 74, the patient was discharged. The patient has since expressed that she would have approved of ECT treatment had she been able to consent.

**Discussion** The side effects of ECT are low compared to the consequences of undertreated malignant catatonia. However, the stigma surrounding ECT has been codified into laws that prevent physicians from utilizing ECT to treat incapacitated patients with catatonia in a timely manner. Legislation around emergent ECT for malignant catatonia should be evaluated to decrease barriers in facilitating lifesaving treatment. **Conclusion** Emergent ECT should be considered in patients with malignant catatonia, even when patients are unable to consent and have no alternate decision makers.

#### **No. 92**

##### **Meta-Data From Digital Assessments: What Is Indicated by Response Time and Response Time Variability?**

*Poster Presenter: Luke S. Scheuer, B.A.*

*Co-Author: Jennifer Melcher*

##### **SUMMARY:**

With the rise in suicide rates not only in the United States, but across the globe, finding effective techniques to assess an individual's mental status is increasingly important - early interventions are key to preventing suicide attempts. While smartphone-based assessments, such as administration of the Patient Health Questionnaire (PHQ-9), can provide valuable insight into a patient's mental status, the meta-data captured by the device can also help. In particular, response latency to specific questions and response latency variability across an entire survey, both measures which cannot be captured by traditional pen-and-paper tests, could shed light into a patient's mental status - previous research has shown that scores on the PHQ-9 self-harm question (item 9) is correlated with latency in patients with schizophrenia, but not for healthy controls. Approximately 300 otherwise healthy participants

who had previously scored highly on the Perceived Stress Scale (PSS) were administered a PHQ-9 survey through our lab's open source smartphone app, mindLAMP, as part of an ongoing study begun in 2020. Over the course of the study, participants were told to take the PHQ-9 survey up to two times over the course of four weeks. A total of 405 surveys were completed across all participants. We found that scores on item 9 were negatively correlated with total survey duration, and thus also average item latency (Spearman's  $\rho = -.16$ ,  $p < .001$ ). Item 9 scores were also negatively correlated with reaction time variability (Spearman's  $\rho = -.13$ ,  $p = .003$ ). Item 9 scores were slightly negatively correlated with latency on item 9, but this correlation was not significant (Spearman's  $\rho = -.06$ ,  $p = .17$ ). Upon filtering for item 9 scores greater than 1, selected participants showed a positive correlation between item 9 score and latency as well as item 9 score and latency variability, but this correlation was also not significant (Latency Spearman's  $\rho = .06$ ,  $p = .717$ , Variability Spearman's  $\rho = .08$ ,  $p = .616$ ). We found no significant correlation between PHQ-9 item 9 latency and item 9 score for healthy participants, and negative correlation between latency variability and item 9 score. For participants who scored highly on item 9, we found a slight positive correlation between both latency and score and latency variability and score, but were unable to conclude it was significant, possibly in part due to the much smaller size of the subgroup, only 10% of our total sample. Given that previous research has found positive correlation between item 9 latency and score in patients with schizophrenia, our findings indicate that both latency and latency variability have potential value as a precision measure of risk for self-harm.

#### **No. 93**

##### **Public's Outlook Toward #Health Careworkers, Before and After the Start of the COVID19 Pandemic: Where Does #Twitter Stand?**

*Poster Presenter: Keshav Holani*

*Co-Authors: Chaden Noureddine, Najeeb Hussain, Evelyn Zepeda, Sabine Noureddine*

## **SUMMARY:**

Background: As the COVID-19 virus spread across the globe, healthcare workers on the front line of the pandemic were brought into the spotlight as they faced dramatic new challenges in caring for increasing numbers of patients, despite staff, equipment, and PPE shortages, as well as a significant concern for their own personal safety. Considering these challenges, a new emphasis was placed on the public to show appreciation towards health care workers and acknowledge their sacrifices, particularly through social media. Additionally, during the pandemic, internet and social media use has increased by unprecedented proportions (1, 2). Due to the transient and instantaneous nature of tweets, Twitter is often used to track public opinion of a range of topics, not the least being healthcare (3). In this study, we used Twitter to explore how the public's outlook towards healthcare workers has changed before and after the start of the pandemic. Methods: An advanced Twitter search was conducted using the hashtag "health care worker" (#healthcareworker) between March 2nd and April 1st, 2019 (pre-pandemic), and March 2nd and April 1st, 2021 (pandemic). Using a word cloud generator, the tweets were processed for analysis of the most used terms. Results: A total of 7 tweets were found, for March 2nd and April 1st, 2019. The ten most used terms for 2019 were "healthcare worker" (found 9 times), "domain" (5), "care" (3), "name" (3), "can" (2), "CFS/AIDS" (2), "faux" (2), "glitter" (2), and "graduation" (2). The remaining 168 terms were used once among the rest of the tweets. A total of 366 tweets were found for March 2nd and April 1st, 2021. The ten most used terms for 2019 were "healthcare worker" (found 73 times), "nurse" (66), "care" (64), "work" (61), "know" (57), "done" (54), "thank" (53), and "best" (51). Discussion: Over the course of the pandemic, the number of tweets using the hashtag health care worker (#healthcareworker), has increased over 52 times. More commonly used terms changed from neutral (such as name, domain and graduation) to more positive connotations (such as care, thank, and best). Conclusion: Despite social media's extensive reach, public opinion and its extensive expression across social media have typically shied away from health care workers, but since the start of the COVID-19 pandemic, we have seen a significant shift

away from this trend. The pandemic, with the frontline against it now glaringly visible to the public through modern technology and media, has drastically altered people's perceptions of health care workers. Social media now has both significantly broader and more positive coverage of this industry.

## **No. 94**

### **Perceived Risks of Psychiatric Electroceutical Interventions for Treatment-Resistant Depression**

*Poster Presenter: Eric D. Achtyes, M.D.*

*Co-Authors: Robyn Bluhm, Laura Cabrera, Aaron McCright*

## **SUMMARY:**

Psychiatric electroceutical interventions (PEIs), which treat psychiatric conditions with electrical or magnetic stimuli, have different risk profiles. Yet, public risk perceptions often do not align closely with those of technical experts. For example, members of the general public still consider electroconvulsive therapy (ECT) to be risky or harmful (Aki, Ak, Sonmez, & Demir, 2013; Lauber, Nordt, Falcato, & Rössler, 2005; McFarquhar & Thompson, 2008; Wilhelmy et al., 2018). It is therefore important to better understand how different groups perceive the risks of PEIs. We conducted a national online survey of 4 groups: the general public (n=1025), caregivers (n=1026), patients living with depression (n=1050), and psychiatrists (n=505). We randomly assigned subjects to 1 of 8 conditions in our full factorial design: 4 PEI modalities [ECT, transcranial magnetic stimulation (TMS), deep brain stimulation (DBS), or adaptive brain implants (ABIs)] X 2 depression severity levels [moderate or severe]. We used ANOVA and regression models to examine and compare attitudes and concerns about PEIs within and across the stakeholder groups. Here, we focus on stakeholders' risk perceptions, as measured with a 5-item perceived riskiness scale. Patients, caregivers, and members of the public perceive greater risk in their assigned PEI than do psychiatrists. Participants assigned to TMS perceive it to be less risky than those assigned to ECT, whereas those assigned to ABI perceive it to be riskier than ECT. Disease severity does not influence



risk perceptions; however, the worse participants perceive living with treatment-resistant depression, the less risky they perceive their PEI to be. In terms of sociodemographic factors, female participants perceive their PEI to be less risky than do their male counterparts (with the exception of ECT), and older participants perceive their PEI to be less risky than their younger counterparts. Our results suggest that non-clinicians' awareness of PEIs and psychiatrists' experience with PEIs are inversely related to perceived PEI risks. Given the different risk perceptions among stakeholders and across treatment modalities, future targeted educational initiatives may help better align perceived and actual risk for the different PEIs, helping to improve uptake of these interventions among those who could benefit from them.

#### No. 95

##### **Mentalization-Based Treatment in a Patient With Borderline Personality Disorder: A Case Study**

*Poster Presenter: Wilson Tan, B.S.*

*Co-Author: Alexander Lerman, M.D.*

#### **SUMMARY:**

**Abstract: Objective:** This article describes a successful psychotherapeutic treatment of a high-risk patient, based on principles of Mentalization Based Treatment, who presented with a long history of severe emotional and behavioral dysregulation, and the prior failure of both pharmacotherapy and Dialectical Behavior Therapy. The patient's progress is demonstrated through selected excerpts of the psychotherapeutic dialogue over a seven-year treatment course. **Methods:** Interview sessions between therapist and patient spanning from 2014 to 2021 were recorded, transcribed, and reviewed, for relevant exchanges showing change in the patient's mentalization process. **Results:** Longitudinal evaluation of transcripts demonstrated growth in patient's psychotherapy process: from dichotomous thinking and pre-mentalizing states such as psychic equivalence and teleological mode, to mental states indicative of a more mature mentalization process—contemplation, reflection, forgiveness, openness, and dialectical thinking. **Conclusions:** With its flexible approach and lack of required formal training, MBT offers several practical

advantages over DBT and therefore should be considered more frequently in routine clinical practice, as demonstrated in this case.

**Tuesday, May 24, 2022**

#### **Poster Session 7**

#### **No. 1**

##### **Natural Disaster and Academic Psychiatry: The Effect of Hurricane Ida and Covid-19 on Medical Student Education in South Louisiana**

*Poster Presenter: Mark Harold Townsend, M.D.*

*Co-Authors: Roxane Bodola, Erin Carraway, Varad S. Deshmukh, M.D.*

#### **SUMMARY:**

Few United States medical schools have been as adversely affected by natural disaster than those in South Louisiana. Both Hurricane Katrina in August of 2005 and Hurricane Ida in August of 2021 caused complete cessation of undergraduate medication: Katrina, for approximately one month, and Ida, for approximately two weeks. In March of 2021 COVID-19 paused hospital-based clerkship education and it returned, transformed as virtual one week later. Concurrent observations of these disasters' effects on the medical students themselves are limited to the routine course evaluations they completed in real time. To begin to determine the impact of more recent Hurricane Ida and COVID-19 interruptions, the authors conducted quantitative and qualitative analyses of these end-of-clerkship surveys among four groups of students: before COVID-19, during the Covid-19, after COVID-19 virtual clinical learning, and during Hurricane Ida. **Methods:** We examined four samples of confidential end-of-clerkship surveys completed by each student and posted on New Innovations between April 1 and June 21, 2019; March 30 and June 19, 2020; March 29 to June 18, 2021; and August 16 to September 24, 2021. Surveys contained 10 five-item Likert and six open-ended questions, assessing course content, organization, and interpersonal climate. Qualitative data was examined with one-way ANOVA, and the qualitative, with ATLAS.ti and CoreNLP, among other methods. Using ANOVA and Tukey's, we conducted two analyses: the first, with the three samples before

Hurricane Ida, and the second, with all four. Regarding the first analysis, significant differences occurred with six of the 10 questions. In each case the 2020, most COVID-affected mean was less favorable. An analysis of all four samples found that Ida-affected students perceived course climate as negatively as those during Covid virtual instruction, but course organization as positively as students one year after, but not one year before, virtual instruction. Regarding qualitative analyses, significant differences occurred among the four sets in terms of lexical modalities, sentiment, as well as affective and cognitive processes. Hurricane Ida caused a sudden, comprehensive disruption of education, with many, possibly most students literally fleeing for their lives. COVID-19 caused the observe: students became largely homebound. While 2020 psychiatry clerks who trained during COVID-19-imposed virtual rounds were less satisfied with their education than students one year before, many 2021 students rated their education more favorably than 2019's. In general, results from students affected by Ida appear closest to students most affected by COVID-19. Although associated with only two events at one medical school, our findings suggest that abrupt interruptions of medical student education may have similar, possibly predictable outcomes.

## **No. 2**

### **Trainee's Perspectives on the Use of Telepsychiatry in Clinical Service and Supervision**

*Poster Presenter: Ossama Tawakol Osman, M.D.*

*Lead Author: Blake Henchcliffe*

*Co-Author: Lauren Cargill*

#### **SUMMARY:**

In the COVID-19 pandemic era, tele-psychiatry emerged as a powerful tool to reach our patients and will likely continue in the future. It opened new opportunities for increasing access and quality by disseminating psychiatric care to traditionally underserved areas. In Texas, psychiatric trainees are integral to this process since they represent an important component to the health care system in the state. They play a significant role by their contribution to enhanced access and quality of clinical services with availability of adequate

supervision. Tele-supervision can be a medium to provide such an essential component of psychiatric training. In this context, tele-supervision of trainees is not limited to patient-physician interactions, but also includes legal proceedings. As many courts are held virtually, learning to navigate those situations has improved trainee's educational experience. The first section of this poster presents a hybrid supervision model using both in-person and tele-supervision for trainees. The technology used for supervision included: telemedicine, phone calls, and Microsoft Teams program. In this model, supervision is provided for clinical services in an inpatient setting at a rural state psychiatric facility. The tele-psychiatry supervisor is a fulltime senior faculty located in an urban academic department. One trainee is located with the supervisor at the urban academic site and the other trainee is on site at the rural state psychiatric hospital. In the second section of the poster we will shed light on trainee's perspectives on how their supervised rotation has provided an opportunity to contribute to enhancing their patient's experience in regards to important determinants of mental health. We will also discuss the challenges they face including: the subtleties of managing a multi-disciplinary team remotely, engaging challenging patients via telemedicine platforms, ensuring excellence in clinical care while protecting their privacy and confidentiality. Some specific and important challenges faced by trainees in rural psychiatry may include; finding affordable housing in an area that makes for a suitable commute and minimal co-resident interactions. A rural psychiatry resident trainee may also be forced to share responsibilities with their "home site." Therefore, valuable time at affiliate training site is missed due to commuting for didactics and call responsibilities. These challenges require unique solutions and developing these skills while still in training is an advantage. Finally, tele-psychiatry is expected to continue as a viable option for reaching patients in the future, and we will outline future directions for continuous improvement of the process for tele-supervision.

## **No. 3**

### **Hypercalcemia Associated With Short-Term Lithium Treatment in a Patient With Bipolar I Disorder**

*Poster Presenter: Jacob Shumac*

*Co-Authors: Heidi Johnson, Catherine Cavender, Mathew Scott Lemberger, M.D., Suzanne Holroyd, M.D.*

**SUMMARY:**

Hypercalcemia associated with short-term lithium treatment in a patient with Bipolar I Disorder  
Hypercalcemia is a rare but known side effect of chronic lithium treatment. To our knowledge, there are no reported cases of hypercalcemia associated with short-term lithium use. We describe a case of symptomatic hypercalcemia in a patient with bipolar disorder associated with short-term lithium treatment. Ms. A, a 66-year-old Caucasian female with Bipolar I Disorder, was admitted to the psychiatric hospital for a severe manic episode. She had stopped taking her psychiatric medications in relapse with severe mood lability, threatening behavior, insomnia and psychosis. In the hospital Lithium 300mg qhs was started, achieving a level of 0.6meq/L, and increased to 450mg qhs with a level of 1.0meq/L, without initial apparent side effect and with improvement of mania. Seventeen days after starting lithium, her calcium increased from an admission level of 10.1mG/dL (normal range 8.4-10.2), to 10.9mG/dL. Lithium was continued for 3 more days, when she became delirious with bradycardia in the setting of recently prescribed gabapentin for pain and metoprolol for HTN. Lithium was held for 3 days for concern of contributing to bradycardia. Lithium was then restarted at 300mg qhs for 3 more days when it was finally discontinued in the setting of worsening delirium. Despite stopping the lithium, gabapentin (also associated with hypercalcemia) and ergocalciferol 50u q week, patient had continued hypercalcemia over the next 27 days ranging from 10.4 – 11.4, before returning to normal. Workup for causes of hypercalcemia including hyperparathyroidism and metastases/cancer were negative. The patient's delirium resolved with resolution of the hypercalcemia. In this report, we review the literature of lithium associated with hypercalcemia. This case highlights the need to remain aware of potential metabolic side effects of mood stabilizing medications and to carefully differentiate presenting symptoms of a mental illness such as bipolar disorder from the fluctuating cognitive symptoms of acute delirium

**No. 4**

**COVID-19 Pandemic's Effect on 4th Year Medical Student's Perceptions of the Residency Interview Processes and Their Match**

*Poster Presenter: Bharat Sampathi, M.D.*

*Co-Authors: Brooke H. Harris, Ph.D., Samuel James Ridout, M.D., Ph.D., Sarthak Angal, M.D., Manasi Rana*

**SUMMARY:**

Introduction: Due to mitigation strategies to reduce transmission of COVID-19, residency programs were forced to change the way in which they interviewed medical student candidates for residency during the 2020-2021 academic year. What was once a mostly in-person experience was largely converted to virtual interviews. The effect of this change on medical students' perceptions of the transition to virtual interviews, their match rates, and satisfaction with the residency in which they matched is largely unstudied. Objective: As a part of a larger study to examine COVID-19's impact to medical students' education, we examined the effect of this transition on medical students' perceptions of the transition to virtual interviews, their perceptions of their performance in the virtual interview, their match rates, and satisfaction with the residency in which they matched. Methods: To examine COVID-19's impact on allopathic medical students' residency interview process, we embedded five locally-developed questions in a larger, anonymous survey administered to medical students attending medical school in California. Questions were: (1) Was your residency interview process affected by COVID -19?; (2) How would you rate your performance in relation to your expectation prior to interview process?; (3) Did you match with a residency program?; (4) How satisfied are you with your match?; and (5) Do you feel your residency match was affected by COVID -19? We received 96 responses, of which 17 students were included in these analyses because they were 4th years who applied to residency during the 2020-2021 academic year. Results: Although one hundred percent of students (17/17) reported that their residency interview process was affected by COVID-19, most students reported their performance was the same as if the interviews were in person (13/17;

77%); 2/17 (12%) reported it was better; and 2/17 reported it was worse (12%). One hundred percent of students surveyed matched to residency and the majority were very satisfied with the match (15/17; 88%) with only 2/17 students reporting being somewhat satisfied with their match. Finally, on whether COVID-19 effected their match, 11/17 students believed COVID-19 affected their match (65%) and 6/17 reporting it did not influence their match (35%). Conclusions: It appeared the benefits of cost savings and reduction in transmission of COVID-19 in converting to virtual residency interviews outweighed the downsides according to this sample of fourth year medical students. Although a large proportion indicated that their interview process was affected in some way, responses indicated that in the most important ways (i.e., match rates, performance in interviews, and satisfaction with their match) there were little perceived differences and as such relying on virtual residency interviews in the future may increase equity in the residency interview process.

**No. 5  
WITHDRAWN**

**No. 6  
Cold Turkey and Ensure: A Review of Medications for Opioid Use Disorder in the Elderly**

*Poster Presenter: J. P. Martell, M.D.*

*Lead Author: Roopa Sethi*

**SUMMARY:**

Background and Objectives: Demographic trends in the United States show an increasing proportion of adults over 65 years old- with a recent population estimation of 50 million individuals- with close to 1 million adults in this group living with an opioid use disorder (OUD). OUD may be particularly problematic in this age group due to age-related pain syndromes and comorbidities that increase risk of side effects, overdose, and death. We completed a review of the scientific literature to assess the safety and efficacy of Medications for Opioid Use Disorder (MOUD) in the elderly. Methods: A search of literature in PubMed, CINAHL, MEDLINE, EMBASE, COCHRANE databases was conducted from January 1992 through October 2021. The following terms

were used “elderly, older adults, opioid use disorder, opioid dependence, buprenorphine, methadone and medication assisted treatment”. The search yielded 633 results. After following PRISMA guidelines and careful manual exclusion, 13 studies were selected for this review. Results: The articles provided insight regarding the shifting and increasing trends of OUD in the elderly, showing that the main areas of inquiry on the subject were related to efficacy and safety of methadone for MOUD. Of the buprenorphine studies that were evaluated, no studies examining the use of buprenorphine were identified for MOUD, but rather, were focused on the treatment of pain syndromes in the target population. Discussion: A review of studies using methadone for MOUD in the elderly population shows that application of this drug is limited by different factors, including dose dependent cardiac, endocrine, immunological, respiratory, and gastrointestinal adverse effects that may prevent some individuals from receiving therapy due to metabolic decreases and preexisting conditions, the latter becoming more prevalent in this population than in the general population. In contrast, buprenorphine and naltrexone have been documented to have less interactions and potentially lethal adverse effects as compared to methadone, making them more preferred candidates for MOUD in the elderly. The studies that were evaluated for the purposes of this article show that buprenorphine has been largely studied for pain syndromes as opposed to MOUD, making it difficult to assess its potential usefulness as a MOUD. Future studies in this area should focus on the application of buprenorphine or naltrexone for MOUD in individuals over 65 years old.

**No. 7  
Clinical Characteristics of Patients With Dissocial and Borderline Personality Disorders Referred for Substance Abuse to an Emergency Department**

*Poster Presenter: Alain Dervaux, M.D., Ph.D.*

*Co-Authors: Bernard Angerville, Mickael Naassila*

**SUMMARY:**

**Objective:** To assess the clinical characteristics of groups of patients with either dissocial or borderline personality disorders compared to control groups, referred to a Liaison-Psychiatry department in an

academic general university hospital. **Methods:** A group of patients with dissocial personality disorders (ICD-10 criteria, n=70) and a group of patients with borderline personality disorders (ICD-10 criteria, n=51) were compared with groups of control patients without personality disorders and matched on age and gender, respectively (n=140) and (n=51). All the patients were consecutively referred to the same Liaison-Psychiatry department from emergency department, between March 2017 and December 2020, at the Amiens University Hospital, France. **Results:** the patients with dissocial and borderline personality disorders were mainly admitted for alcohol intoxication and suicidal ideation or behavior. The rate of admission for suicidal ideation or behavior was significantly higher compared to controls. Nearly nine out of ten patients with dissocial and three-fourths of the patients with borderline smoked tobacco daily, approximately 60% of the patients with dissocial or borderline personality disorders used alcohol on a daily basis and one quarter used cannabis on a daily basis. The co-use of nicotine and alcohol on a daily basis was very frequent in patients with personality disorders Only three patients received pharmacological treatments for smoking cessation and five for alcohol cessation. **Discussion and conclusions:** despite the fact that tobacco, alcohol or cannabis daily use was common in patients with dissocial or borderline personality disorders, referred to a Liaison-Psychiatry, the rate of patients receiving treatments for alcohol or nicotine use disorders was very low.

## No. 8

### Impairments in Facial Expression Recognition in Patients With Bipolar Disorders Using the Facial Emotions Recognition Task

*Poster Presenter: Alain Dervaux, M.D., Ph.D.*

*Lead Author: Alexandre Carpentier*

*Co-Authors: Bernard Angerville, Nicolas Franck, Marie Cecile Bralet*

#### **SUMMARY:**

**Background:** Patients with bipolar disorders (BD) have significant impairments in Facial Expression Recognition (FER), an essential social skill for effective social interactions<sup>1,2</sup>. While the Facial

Emotions Recognition Task (TREF) has been used in patients with schizophrenia<sup>3</sup>, few studies have evaluated FER using this test in BD patients. The TREF meets the International Society for Bipolar Disorders criteria for the assessment of FER. The objective of this study is to evaluate and compare FER in patients with euthymic BD versus healthy controls using the TREF. **Method:** This multicentric case-control study included 60 BD patients diagnosed according to DSM-5 criteria, 30 with bipolar I disorder (BDI) and 30 with bipolar II disorder (BDII), were evaluated using the TREF and compared with sixty HC. All groups were matched for age, gender, and years of education. All patients with BD were assessed using the Mini International Neuropsychiatric Interview (MINI), the 17 item Hamilton Depression Rating scale (HDRS-17), the Young Mania Rating Scale (YMRS) and the Beck Depression Inventory. Euthymia was defined as the absence of any episode of depression, mania or hypomania, two months prior to testing and current scores < 7 on the HDRS-17 and YMRS as recommended by the ISBD. **Results:** Mean overall TREF impairment scores as well as sub-scores for anger and contempt recognition were significantly higher in patients with BD versus those in healthy controls (respectively  $\chi^2 = 20.8$ ,  $p < 0.0001$ ;  $\chi^2 = 6.99$ ,  $p < 0.05$ ;  $\chi^2 = 6.86$ ,  $p < 0.001$ ). No significant differences in TREF scores were shown between patients with bipolar I disorders and patients with bipolar II disorders. **Discussion and conclusions:** The results of the present study confirmed that there were global impairments in facial expression recognition in patients with euthymic bipolar I and II disorders compared with HC found in previous studies using other cognitive assessments. To our knowledge, this is the first study that compared FER between a group of patients with euthymic BD and a group of healthy controls using cut-offs to define impairment and mild impairment scores as suggested by ISBD. Results of the paradigms investigating FER in patients with BD are mainly expressed using mean accuracy scores without a definition of a clinically significant impairment score regarding standard deviations (SDs) from the mean accuracy global and per emotion scores in the group of healthy controls.

## No. 9

### Effect of Lurasidone on Anhedonia in Adult Patients With Bipolar Depression

Poster Presenter: Roger S. McIntyre, M.D.

Co-Authors: Yongcai Mao, Michael Tocco

#### SUMMARY:

**Introduction:** During the course of bipolar disorder, depression is the predominant symptomatology, ranging in severity from major depressive episodes to milder subsyndromal depression. One of the most common and disabling symptoms of bipolar depression is anhedonia, which has been reported to be associated with a worse prognosis, including impairment in quality of life and functioning. Lurasidone has demonstrated efficacy in the treatment of bipolar depression. The aim of this post-hoc analysis was to evaluate the efficacy of lurasidone in improving anhedonia, and the extent to which improvement in anhedonia was associated with improvement in quality of life and functioning.

**Methods:** Patients with bipolar I depression (Montgomery Åsberg Depression Rating Scale [MADRS]=20) were randomized to 6 weeks of once-daily, double-blind treatment with lurasidone in doses of 20-60 mg/d and 80-120 mg/d (N=161 and N=162, respectively) or placebo (N=162). Anhedonia was measured using item-8 (inability to feel pleasure/reduced interest) on the MADRS. Anhedonia responder criteria consisted of a week 6 item-8 score =2 (mild-to-no anhedonia). A mediational analysis was performed to determine to what extent improvement in anhedonia mediated improvement in the Sheehan Disability Scale (SDS) and the Quality of Life, Enjoyment, and Satisfaction Questionnaire (Q-LES-Q). **Results:** At baseline 276/485 (56.9%) of patients had moderate-to-severe anhedonia (item-8 =4). Lurasidone treatment significantly reduced mean MADRS total scores at week 6 for both the 20-60 mg/d group (-15.4; effect size=0.51) and the 80-120 mg/d group (-15.4; effect size=0.51) compared with placebo (-10.7). Lurasidone also significantly reduced item-8 anhedonia at week 6 for both the 20-60 mg/d group (-1.8; P=0.002; effect size=0.38) and the 80-120 mg/d group (-1.8; P=0.002; effect size=0.38) compared with placebo (-1.3). A mediational analysis showed that 56.9% (Wald 95% CI, 32.4, 81.4) of the total lurasidone effect on improvement in the Q-LES-

Q total score was mediated by improvement in the item-8 anhedonia score (P<0.0001). A significant percent (48.4%; Wald 95% CI, 22.8, 74.0) of the lurasidone effect on improvement on the SDS total score was also mediated by improvement in the item-8 anhedonia score (P<0.0005). **Conclusion:** The results of this post-hoc analysis suggests that lurasidone is an effective treatment for anhedonia in patients with a diagnosis of bipolar I disorder who present with moderate-to-severe major depressive episodes. Improvement in both quality of life and functioning appeared to be largely mediated by improvement in anhedonia, indicating that the amelioration of patients' pervasive inability to feel pleasure or take interest in their environment is an important therapeutic target.

## No. 10

### A Computational Brain Model Predicting FMRI Activity in the Caudate, Frontal Cortex and Parietal Cortex of Individuals With High Fluid Intelligence

Poster Presenter: Ayodeji Jolayemi, M.D.

#### SUMMARY:

Advances in neurosciences have demonstrated the role of higher fluid intelligence in the resilience to neurodegeneration. As a result an understanding of the neural correlates of higher fluid intelligence can provide potential interventional targets in the brain for cognitive rehabilitation and enhancement in neurodegenerative disorders like Schizophrenia and Alzheimer's Dementia. The identification of neural networks and neurotransmitter systems that are crucial for fluid intelligence and are potential targets for therapeutic intervention continues to remain a challenge. We approach this problem of identifying the neural correlates using a Computational Neural Network approach. Higher fluid intelligence is formulated as an efficient search for learned activities. A modified Hierarchical Neural Network model of learning is proposed which optimizes the efficiency of search for solutions learned by the Network. The activity of different clusters of neurons within the network during learning and planning is used to predict patterns of FMRI activity in the caudate, the frontal Cortex and the parietal Cortex during learning and planning. The implication of the predictions of the Computational Neural Network

model for potential therapeutic interventions such as cognitive enhancement and rehabilitation is discussed.

#### No. 11

##### **Social Determinants of Health, Health Care Resource Utilization, and Costs Among Patients With Major Depressive or Bipolar I Disorder by Payer Type**

*Poster Presenter: Dusica Hadzi Boskovic, M.S.*

*Lead Author: Christie Teigland, Ph.D.*

*Co-Authors: Seung Kim, Ph.D., Iman Mohammadi, Ph.D., Barnabie Agatep, M.P.H.*

#### **SUMMARY:**

**Background:** Major depressive disorder (MDD) and Bipolar I disorder (BD) are serious mental health conditions associated with poor clinical outcomes, daily functional impairment, higher suicide rates, and an increased number of comorbidities.<sup>1,2</sup> Compared to the general population, patients with MDD or BD incur substantially higher healthcare utilization and costs.<sup>1,2</sup> They also have a higher social determinants of health (SDOH) burden.<sup>3</sup> **Objective:** Describe SDOH characteristics, healthcare utilization, and costs in MDD/BD patients in a managed Medicaid (MM) or commercial insurance (CM) health plan. **Methods:** A retrospective study using claims data from 2016-2018 to identify patients age 18+ newly diagnosed with MDD or BD and continuously enrolled in MM or CM for ≥6m pre/post-index. SDOH were linked at the 9-digit ZIP level. **Results:** 1,958,532 MDD (49.5% CM; 50.5% MM) and 243,286 BD (25.5% CM; 74.5% MM) patients were included. BD/MDD were more likely female (65%/71% MM; 60%/68% CM) but MDD were older than BD (mean age 43-44 vs 40). Medicaid insured BD/MDD were more likely to be untreated (26%/29% MM vs 20%/19% CM) with much higher SDOH burden, including income <\$30K (35%/33% MM vs 8%/7% CM), less likely to be married (40%/42% MM vs 52%/53% CM), live in areas with no shortage of primary care (5%/5% MM vs 10%/11% CM) or mental health professionals (5%/4% MM vs 9%/10% CM), own their home (53%/55% MM vs 75%/77% CM), more likely to live alone (70%/68% vs 52%/50%), have high school education or less (82%/81% MM vs 52%/50% CM), and no vehicle

(15%/14% MM vs 6%/6% CM). Medicaid insured BD/MDD were more likely to have a hospitalization (35%/30% MM vs 22%/15% CM) and emergency room visit (64%/58% MM vs 40%/31% CM) and incurred 40-47% higher annual costs for both BD/MDD (\$21,467/\$21,474 MM vs \$15,379/\$14,531 CM). **Conclusion:** This analysis found Medicaid insured BD/MDD patients had higher SDOH burden compared to commercially insured patients leading to significantly higher healthcare utilization and annual costs. It is important for physicians and payers to consider SDOH factors as well as clinical factors in treating patients with BD/MDD to achieve optimal and equitable outcomes and address unmet needs and lower healthcare costs.

#### No. 12

##### **Characterizing the Impact of Stigma From the Perspective of Bipolar Disorder Patients: Results From a Social Listening Study**

*Poster Presenter: Huy-Binh Nguyen*

*Lead Author: Thais Moreira*

*Co-Authors: Kiren Patel, Christine Varley, Collette Eccleston*

#### **SUMMARY:**

**Background:** Bipolar disorder (BP) is a chronic and recurrent psychiatric disorder characterized by manic/hypomanic and depressive episodes with or without mixed features. Despite high levels of functional disability associated with BP, internal and external stigma can create barriers to successful recovery. This retrospective, observational social listening study was conducted to understand how stigma-related terms correlated with discussion of therapeutic interventions and psychosocial domains associated with functional recovery in unprompted, online conversations by self-identified bipolar disorder patients. **Methods:** A comprehensive search was performed for publicly available, online conversations posted on forums, blogs, message boards, and the social media platforms Facebook and YouTube between 1/1/2019 and 9/30/2021. Digital interactions of anonymous self-identified BP-diagnosed patients were analyzed to identify associations between common themes and sentiments related to BP and stigma. An index value (baseline=100) was calculated based on the

expected correlation between the rate that a stigma-related concept was used in BP conversation versus general online conversation. An index value >100 indicated higher correlation than statistically expected; index values <100 indicated lower correlation than expected. **Results:** A total of 257,964 conversations from 30,710 patients with BP were identified for analysis (mean, 8.4 BP-I posts per individual/year). The most prevalent stigma-related terms in patient conversations were guilt (6.9%), frustrated/discouraged (1.8%), shame (1.1%), and exhaustion (1.1%). Stigma-related terms over-indexed in conversations attributed to bipolar patients (eg, guilt=708, denial=563, embarrassment=480); stigma-related terms were also over-indexed in relapse-related conversations (eg, stressed=184, shame=141, and frustrated/discouraged=124). Social/familial topics (47.2%) were discussed as often as medical/psychological interventions (48.7%) and medication (42.8%). Medical intervention-related conversations were not highly correlated with stigma, except in areas of insurance/disability. Stigma-related terms were over-indexed in conversations related to social/familial relationships (eg, isolation/loneliness=134, guilt=132), and jobs/school (eg, embarrassment=190, stigma=184, overwhelmed=154, shame=142, isolation/loneliness=140). **Conclusion:** These analyses describe the pattern by which stigma appears in patient perceptions of psychosocial and medical/therapeutic domains. Stigma significantly associates with psychosocial domains related to functional recovery, but not with patient perceptions of therapeutic interventions. Thus, stigma may act as a barrier between symptomatic remission and functional recovery. The patient-provider therapeutic alliance represents a trusted channel and an opportunity through which patients should be supported in overcoming stigma-related barriers to functional recovery. Supported by AbbVie.

### **No. 13**

#### **The Effect of Medication Assisted Treatment (MAT) for Opioid Use Disorder (OUD) in Incarcerated Populations**

*Poster Presenter: Thersilla Oberbarnscheidt, M.D., Ph.D.*

*Co-Author: Norman S. Miller, M.D., J.D.*

#### **SUMMARY:**

*The opioid epidemic continues to be a major concern in the U.S. There were an estimated 93,331 drug overdose deaths in the United States during 2020, an increase of 29.4% from the 72,151 deaths in 2019. In particular at high risk for overdose are populations that are incarcerated or recently released from incarceration. The risk of overdose death in the first 2 weeks post incarceration is 129-fold increased to the general population. One-quarter to one-third of all heroin users in the U.S. are incarcerated at least once within a year as substance use and in particular opioid use disorder are highly associated with illicit activities. Estimates indicate that 80% of all arrests are related to drug or alcohol use and associated lifestyles. The length of heroin use has been shown to increase the likelihood of incarceration. Each additional year of opioid use increases the risk of incarceration by 11%. The risk increases even further among ethnic minorities and color. Medication assisted treatment (MAT) options for opioid use disorder (OUD) are available and well researched. Several studies have shown their efficacy in reduction of opioid use, injecting risk behavior as well as social and health benefits as well as safety. The first state to incorporate MAT in correctional facilities was Rhode Island in 2016. However, throughout the U.S. MAT for OUD in correctional facilities remains widely underutilized. To reduce the rate of overdose deaths from opioids, correctional facilities and the ongoing treatment in those settings should become a higher focus and public concern. Providing MAT for OUD in correctional settings can reduce the mortality and also avoid re-incarceration and better psycho-social functioning. Withholding life-saving medications from incarcerated populations also raises ethical concerns as was pronounced unethical by the National Academies of Science. This poster is a systematic review of literature on the current available data on MAT for Opioid use disorder provided in corrective facilities within the U.S., guided for physician and clinician education and to raise awareness for reforms and access to MAT for incarcerated populations. Utilized sources were Pubmed, Ovid, Medline, PsychInfo, EMBASE.*



**No. 14****Neighborhood Social Disadvantage and Increases in Child Abuse and Neglect During COVID-19**

*Poster Presenter: Laura K. Thompson, M.S.*

**SUMMARY:**

The onset of COVID-19 in the U.S. saw massive economic and social upheavals. Damage from the pandemic has been calculated in cases, deaths, and economic terms however child maltreatment is an underemphasized negative health outcome. Known risk factors for maltreatment in normal settings have been exacerbated during the pandemic. Although welfare organizations saw a considerable decrease in reports of maltreatment at the onset of COVID-19, this drop was likely a consequence of community center and school closures resulting in a diminished opportunity for professionals to detect and intervene in cases of suspected maltreatment rather than a decrease in incidence. The transition to online instruction broke a vital link between reporters and victims. Stay-at-home orders, isolation, and other measures meant to combat the spread of COVID-19 put children at an increased risk of violence by limiting the ability of individuals outside the home to detect and report cases. Caregivers experiencing burnout, which occurs when resources are outweighed by the demands and stress of parenting, and isolation are more likely to engage in violence. Strong positive associations exist between maltreatment and poverty in all race and ethnic groups. Studies suggest white/black children are disproportionately the victims of maltreatment and this is driven by poverty. Economic insecurity due to loss of jobs and income combined with parental burnout may have placed children at additional risk for violence and negative outcomes. This ecological study uses secondary population-based data to examine trends in child maltreatment during COVID-19: 1) National Child Abuse and Neglect Data System, which contain case-level data on demographics of children and perpetrators, maltreatment, risk factors, and report date, source and location to identify incidence of maltreatment; 2) Area Deprivation Index is used to estimate neighborhood social disadvantage at the census block group level; and 3) data from the Centers of Disease Control COVID-19 Case Surveillance Public Use Data is used to analyze cases across regions. A

difference-in-differences analytic approach is used to examine the impact of disparities and pandemics on the incidence of maltreatment and association with neighborhood social disadvantage. Pre-pandemic period is defined as prior to February 1, 2020 based on the WHO declaration of a global health emergency on January 31, 2021. Time periods of interest include one year prior to and 4, 6, and 12 months after the pandemic. Geomapping is used to illustrate the potential impact of COVID-19 and neighborhood social disadvantage on maltreatment. Child maltreatment presents a considerable cost to society and is a significant risk factor for negative outcomes across the lifespan. It is paramount that we understand the trends in child maltreatment following pandemics and the role of disparities to ensure prompt reporting, intervention, and preventative measures are implemented.

**No. 15****Mental Health Treatment for Parents in the Child Welfare System and Family Reunification**

*Poster Presenter: Stacie Collins, M.D.*

*Co-Authors: James Baird, M.P.P., Andrea Nicoletti Ponce, B.A., Lisa Fortuna, M.D., M.Div., M.P.H., Rachel Loewy, Ph.D.*

**SUMMARY:**

Background Parents involved in the California foster care system have approximately 15 months to demonstrate they are fit to regain custody of their child before parental rights are terminated (1, 2). For many parents, addressing personal mental health needs is crucial to achieving family reunification within this time period (3). Connecting parents to appropriate mental health care services is contingent upon effective interagency collaboration; namely, child protective agencies must have a clear way to communicate with mental health care providers so that needs are clearly identified and services delivered to families in a timely manner (4). However, several barriers hinder this communication, and may affect a parent's ability to get needed care (5). Further, literature suggests delivery of care for parents, as well as parent satisfaction, are frequently underemphasized within the foster care system, even when treatment is mandated (6, 7). This quality improvement study will

employ a mixed method design to examine factors that play a potential role in parents' connection to mental health treatment through the foster care system, and the impact they may have on family reunification. **Methods** Our retrospective observational study will include a sample of parents of children placed in the foster care system who were referred by the Human Services Agency (HSA) to the San Francisco Department of Public Health (SFDPH) Foster Care Mental Health clinic (FCMH) for mental health services between 2018-2020. FCMH facilitates parent referrals to assessment and treatment resources. FCMH's records of parent and referral information will be linked to reunification outcome data from HSA. We will calculate success rates for referral connection and time to connection. Next, we will conduct logistic regressions to determine if parent demographics (e.g., age, race, sex, ethnicity) and referral characteristics (e.g., referral reason, requested service type, successful connection, time to connection) affect success of family reunification. We hypothesize that successful referral connection and faster time to connection will be associated with family reunification. We will also conduct key informant interviews to identify barriers and facilitators of timely referral connection. Mental health providers at FCMH (N~3), child protection professionals at HSA (N~3), and leadership at the relevant organizations (N~3) will be invited to engage in semi-structured interviews. We will develop interview guides, code responses using thematic analysis and develop recommendations to improve parent referral for mental health services based on these results. **Results** Data collection and analyses will be completed by the 2022 Annual Meeting of the American Psychiatric Association. **Conclusions** Our study findings will guide recommendations for system changes in order to reach treatment and family goals. Further, we will inform practices within FCMH and HSA to improve interagency coordination.

#### **No. 16**

##### **The Occurrence of Mental Health Symptoms in Isotretinoin-Treated Adolescents**

*Poster Presenter: Keith Miller*

*Co-Author: Alastair McKean*

#### **SUMMARY:**

**Background:** Despite concern for psychiatric sequelae during isotretinoin treatment for acne, there are no controlled or observational studies investigating the incidence of such symptoms in adolescents. Clarification of the relationship between isotretinoin and new mental health diagnoses, as well as the chance of developing new psychiatric problems given a known psychiatric history will guide the prescription of this medication to adolescents. **Methods:** The Rochester Epidemiology Project Census was searched to identify patients aged 12-18 prescribed isotretinoin over a 10-year period. Medical records were reviewed to determine which patients had active mental health problems before, during, and after isotretinoin therapy. Charts were reviewed to determine if there were psychiatric symptoms not captured by formal diagnosis or if any changes to isotretinoin dosing were made because of mental health concerns. **Results:** 634 patients were prescribed isotretinoin during the study period. 143 (22%) received at least 1 psychiatric diagnosis prior to the time that isotretinoin was initiated, with only 8 of these patients (6% of those with such history) receiving psychiatric consultation to approve the use of isotretinoin given their history. Only 25 patients (4%) received a new psychiatric diagnosis during the acute phase of isotretinoin treatment (avg. duration = 7.2 months), with 9 of them (36%) having a pre-existing psychiatric comorbidity. Of the 36 psychiatric diagnoses made during treatment with isotretinoin, depression (22%), suicidality (22%), and anxiety (17%) were the most common. Patients with a history of a mental illness were also much more likely to experience psychiatric symptoms that did not rise to the level of a formal diagnosis (i.e. low mood, irritability, mood swings) on isotretinoin than those without any such history (31% vs. 6%;  $p < 0.001$ ). Despite the increased symptoms, those with a mental health history were not more likely to have isotretinoin decreased or discontinued in response to such concerns (28% vs. 26%). However, if the symptoms rose to the level of a formal diagnosis in someone without pre-existing psychiatric concerns, isotretinoin was likely to be stopped (53%). **Conclusions:** Most patients prescribed isotretinoin did not receive a new psychiatric diagnosis during the treatment period,

even if they had a history of psychiatric illness. Patients with a history of psychiatric illness were more likely than those without to have psychiatric symptoms (primarily low mood, irritability, mood swings) during isotretinoin treatment. Isotretinoin was only likely to be stopped if previously healthy patients were formally diagnosed with a psychiatric condition during the acute phase of treatment. Adolescents with a psychiatric history may continue to benefit from close monitoring when treated with isotretinoin.

#### **No. 17**

##### **Maternal Depressive Symptoms Moderate Association Between Children's Exposure to COVID-Related Stressors and Internalizing Symptoms**

*Poster Presenter: Anna Ryan Wilson, B.S.*

*Co-Authors: Victoria Parker, Hilary Skov, Sarah Gray*

#### **SUMMARY:**

Maternal and child depressive symptoms increased during the COVID-19 pandemic, as families experienced unprecedented stressors (e.g., school/childcare closures, isolation from support). Maternal psychopathology is a known risk factor for child internalizing symptoms in the context of acute stress (e.g. natural disasters). Risk factors for exposure to COVID-19 (e.g., limited healthcare access, mandatory in-person work) are disproportionately experienced among economically and racially marginalized communities. While associations between maternal and adolescent psychopathology have been examined during COVID-19, no known study has examined the co-contribution of maternal psychopathology and COVID-related stress to mental health among economically and racially marginalized young children. Between 10/2020-2/2021, 92 mothers of children (ages 5-10 years; 49.4% female) reported on child exposure to COVID-19-related stressors using the Epidemic-Pandemic Impacts Inventory yielding a sum of COVID-related life events. Mothers reported on their depressive symptoms using the Center for Epidemiologic Studies Depression Scale-Revised and on children's internalizing symptoms with the Child Behavior Checklist. Mothers primarily identified as Black/African American (78%) and were low income (93% household income of <\$35,000). Mothers

reported a range of COVID-19 related events in their children's lives (range: 0-21;  $M=8$ ;  $SD=4.5$ ); 32.6% of children experienced the death of a family member/friend due to COVID and 36.5% of parents were laid off. Mean maternal depressive symptom scores were in the clinically significant range ( $M=18$ ;  $SD=18$ ). We examined the co-contribution of maternal depression and children's exposure to COVID-related stressors on child internalizing symptoms, covarying child age, child sex, and maternal education, and observed a significant interaction between maternal depression and COVID-19 stress exposure ( $R^2$  change=.08,  $F=8.596$ ,  $p=.004$ ; interaction term: 95% CI [.0053-.0275]). To decompose the interaction, we modeled conditional effects of COVID-19 stressors on child internalizing symptoms at the 16th, 50th, and 84th percentile of maternal depressive symptoms; simple slopes were significant only at the 84th percentile ( $t=4.118$ ;  $p<.001$ ; 95% CI [0.353-1.016]). Results suggest that children's internalizing symptoms were highest among children who experienced *both* high levels of COVID-related stressors *and* high maternal depressive symptoms. Findings are consistent with a diathesis-stress pattern and research demonstrating that maternal depression is a risk factor for child mental health in the context of acute stressors. Identifying risk factors for young children's vulnerability to mental health psychopathology during COVID-19 is critical to prevention efforts and resource allocation. Interventions should focus on accessibility and support for families, as well as target oppressive systems that disproportionately harm marginalized communities.

#### **No. 18**

##### **Relationship Between Polypharmacy and Clinical Functioning in Patients With ADHD: A Retrospective Analysis of Real World Data**

*Poster Presenter: Scott H. Kollins*

*Lead Author: Matthew Valko*

*Co-Author: Miguel E. Renteria*

#### **SUMMARY:**

**Objectives.** Polypharmacy is common in the treatment of ADHD, but little is known about its relation to clinical functioning. The primary objective of this analysis was to use a large real world data

(RWD) source derived from electronic health records to examine this relationship in patients with ADHD across the lifespan. Notably, this RWD source includes information regarding both medications and clinical functioning, measured with a clinician-rated Clinical Global Impression - Severity (CGI-S) score. **Methods.** The NeuroBlu™ database includes de-identified data from > 550,000 unique patients over 20 years, including Clinical Global Impression - Severity (CGI-S) scores. Data were from US sites using a common electronic health record system. All patients with an ICD diagnosis of ADHD were included. Additional inclusion criteria included: = 3 clinical visits within a 12 month period, CGI-S recorded at initial visit, and prescription medication information. Cohorts were defined by the maximum number of simultaneous medications prescribed in a 12 month time frame and included patients prescribed 0, 1, 2, 3, 4, and 5 or more medications at a single time point. Mean and median CGI-S scores at initial ADHD diagnosis were compared across cohorts. Cohorts were further stratified for children (aged 0-12 years), adolescents (aged 13-17 years), and adults (aged 18 years and older). **Results.** Of 53,744 patients with ADHD, 31,824 met eligibility criteria; 59% were Caucasian, and 58% were male. The proportion of patients included in each of the polypharmacy cohorts was as follows: 0: 6%; 1: 21%; 2: 24%; 3: 19%; 4: 13%; and 5+: 18%. Patients on 0-4 medications had a median CGI of 4 and those with 5+ medications had a median CGI of 5. Although there was a statistically significant difference across cohorts with respect to mean CGI-S score, the clinical significance of this difference was small. Pairwise comparisons indicated that there were no differences in CGIS scores between patients receiving 0, 1, or 2 medications and only a nominal difference between those receiving 0 and 3 medications. Results were similar when examined across age groups. **Conclusions.** Polypharmacy practices in patients with ADHD may not be meaningfully associated with clinical functioning. Findings highlight the need for additional research with RWD sources to better understand these prescribing practices.

## No. 19

### Millennial Era Use of Technology Resulting in Serious Mental Health and Legal Consequences: Systematic Review

*Poster Presenter: Monika Gashi, M.D.*

*Co-Author: Marilena Adames-Jennings, M.D.*

#### SUMMARY:

**Objective** Unsupervised use of cellphones among the millennial age group minors spiked by great deal of curiosity, pressure to be in relationship or wanting to be in one can result in maleficence behavior. The literature review evaluates the prevalence of sexting among minors, mental health comorbidities, and legal implications. The aim of the study is to increase awareness for screening of sexting among minors by providers. Provide education to caregivers and minors involved and possible legal implications. Identify early signs of mental health and reduce deadly outcomes of completed suicides. **Methods** The Pubmed database was used for the systematic search with keywords "sexting" and "minors and sexting." The inclusion criteria consisted the age range: 12-17 years old, both genders and gender minority, all levels of socioeconomic and health statuses and cell phone possession. Meanwhile, exclusion criteria were gambling, sextortion, financial gain, and intimate partner violence. **Results** There were 24 articles identified, 7 articles met the inclusion criteria. From the evaluated studies the sample size was 12747; 17.8% engaged in sexting, 11.6% sent the sext, 30.4% received a sext, noting males more than females likely to forward the sext in <4% of cases. Common mental health comorbidities noted were isolation, absence from school, resulting in anxiety, depression in context of bullying and cyberbullying, due to nonconsensual transmission of inappropriate pictures or videos. Most serious outcomes were death by suicide, hanging or overdose with medications, and in few cases caregivers arms were used. There are no mutual consensuses among all the states of USA regarding decriminalizing charges of felony for child pornography to class A misdemeanor among minors. **Conclusions** Educating caregivers and minors regarding the legal implications and mental health symptoms, remains an important intervention by providers during routine visits for child wellness. Though charges can range from felony, criminal

offense to class A misdemeanor, minor offence, pending enactments taken by few states, the scars left on either party and their families involved are permanent. Early recognition of identified individuals affected by sexting, providing emotional support as well as mental health and related services is paramount.

## No. 20

### **Social Determinants of Mental Health Trajectories Among Children in the United States During the COVID-19 Pandemic**

*Poster Presenter: Yunyu Xiao, Ph.D.*

*Co-Authors: Jyotishman Pathak, Paul Yip, J. John Mann, M.D.*

#### **SUMMARY:**

**Background:** The COVID-19 pandemic has been reported to elevate mental distress among adults moderated by sociodemographic disparities. Yet, few studies have focused on sociodemographic disparities in child mental health trajectories. This is important as all children < 12 years old are unvaccinated and may be more vulnerable than vaccinated adults to individual and contextual social determinants of health (SDoH) risk factors. Moreover, children have no say to COVID-related decisions made by parents, schools, or States. This prospective cohort study aims to identify multilevel social determinants of health (SDoH) of children's mental health trajectories over the pandemic period. **Methods:** We included 8,055 children aged 9-11 years from the Adolescent Brain Cognitive Development Study. Perceived stress scale and COVID-19 related worry were assessed across 6 waves (5/16/2020-4/24/2021). Following Bernardini et al. (2021), we linked pre-existing (sociodemographic factors) with COVID-19 related (e.g., unemployment and food insecurity due to the pandemic) SDoH factors in COVID-19 Rapid Response data. We used multilevel generalized mixed-effect model to examine child mental health trajectories and differentiate impacts of individual and contextual population-level SDoH factors (e.g., area deprivation index [ADI], county-level unemployment rates in 2020). **Results:** Perceived stress has significantly increased from 5.56 (SD=2.96) to 5.70 (SD=3.02), while COVID-19 related worry has

decreased from 2.39 (SD=1.05) to 2.20 (SD=1.01). Older, female, Hispanic/Latino/x, Black, children living with low-income families (<\$50,000/year), and/or widowed guardians reported greater perceived stress and greater COVID-19 worry over time. Controlling for COVID-19 SDoH risks, increased stress and worry were observed among children in families with unemployed family members (OR=1.14 [95% CI, 1.02-1.23]). Children in families who cannot easily afford food during the COVID-19 reported greater stress (OR=1.65 [95% CI, 1.25-2.20]) and COVID-19 related worry (OR=1.25 [95% CI, 1.01-1.33]). Lack of access to medical care (OR=2.78 [95% CI, 1.16-6.69]) and mental health treatment (OR=2.39 [95% CI, 1.61-3.56]) were associated with increased perceived stress. Such significant effects were greater in stress among Hispanic/Latino children and in COVID-19 worry among Black children. Children living in the most deprived area have increased perceived stress since 2020 (OR=1.39% [95%CI, 1.19-1.63]). **Conclusions:** This is one of the few studies identifying the importance of temporal changes in mental health and multilevel SDoH factors in young children in the U.S. Our findings on age, sex, and racial/ethnic disparities are consistent with previous studies of adult populations. We further highlighted medical service use and food insecurity as modifiable targets. Future policy interventions should focus support on families with unemployed members lacking enough food and medical care.

## No. 21

### **Trends in Insufficient Sleep and Suicidal Behaviors Among U.S. Adolescents by Age, Sex and Race/Ethnicity, 2007–2019**

*Poster Presenter: Yunyu Xiao*

*Co-Authors: Zijing Wang, Yijia Tang, Guanghai Wang*

#### **SUMMARY:**

**Background:** Suicide has emerged as the second leading cause of death among youths aged 10-24 years. Insufficient sleep was found to associate with increased risks of suicide in this age group. Yet, it is unknown whether the trends in suicide differ between adolescents with and without insufficient sleep, and how social determinants of health (SDoH) across individual-level demographics may moderate

the trends. This study uses nationally representative data to examine differences in trends in suicidal behaviors by sleep duration in US adolescents from 2007 through 2019 by age, sex, and race/ethnicity subgroups. **Methods:** This cross-sectional study used a representative sample of US adolescents in grades 9-12 from the national Youth Risk Behavior Survey (YRBS, N= 73 356). Sleep duration was dichotomized in insufficient sleep [ $< 8h$ ] and sufficient sleep [ $=8h$ ]. We used jointpoint regression to examine the trends of suicidal behaviors (suicidal ideation, suicide plan, suicide attempts and injury by suicide attempt) by sleep duration, age, sex, and race/ethnicity. **Results:** Suicidal ideation and suicide plan in adolescents with insufficient sleep increased from 2007 to 2019 (BPC=2.54%, 95%CI, 1.30% to 3.79%; BPC=3.20%, 95%CI, 1.77% to 4.64%), but remained stable in adolescents with sufficient sleep (BPC=1.75%, 95%CI, -0.45% to 3.99%; BPC=2.36%, 95%CI, -0.33% to 5.13%). The trends of suicide attempts and injury by suicide attempt from 2007 through 2019 in both insufficient and sufficient sleep group remain stable. Sex disparities was found in trends of suicide plan among adolescents with insufficient sleep, but not in adolescents with sufficient sleep. The females with insufficient sleep demonstrated consistent and significant increase in suicide plan from 2007 to 2019 (BPC=4.03%, 95%CI, 2.47% to 5.62%). but the prevalence in males was stable (BPC=1.88%, 95%CI, -0.17% to 3.99%). Age disparities was only noted in the trend in suicide plan among adolescents with insufficient sleep, with older adolescents (BPC=3.56%, 95%CI, 1.89% to 5.27%) had a higher increase in BPC than younger adolescents (BPC=2.31%, 95%CI, 0.70% to 3.95%). Trends in suicide plan among the four racial subgroups with insufficient sleep demonstrated significant increases, with BPCs being highest for the White (BPC= 3.48%, 95%CI, 1.31% to 5.69%), and lowest for the Hispanic (BPC= 1.18%, 95%CI, 0.15% to 2.23%). **Conclusion:** Adolescents with insufficient sleep showed consistently increased trends in suicidal behaviors. Older, female, Black and Latino adolescents who lack of sufficient sleep are at elevated risks of suicide. Psychiatrists shall screen for sleep hours to better detect suicidal behaviors among adolescents. Public health promotion through media coverage and campaigns shall emphasize the importance of sufficient sleep for high school adolescents.

## No. 22

### How Structural Racism and Discrimination Deepened Inequalities in Child Mental Health Trajectories in the U.S. During the COVID-19?

Poster Presenter: Yunyu Xiao, Ph.D.

Co-Authors: Julian Chun-Chung Chow, Lonnie Snowden

#### SUMMARY:

**Background:** Despite the considerable amount of work documenting racial/ethnic disparities in mental health among US adults at the state and national levels, little is known about how structural racism and discrimination (SRD) at state and local levels may contribute to mental distress among children across different pandemic stages. This prospective study examined the role of different types of SRD and area deprivation on hyper-local disparities in child mental health trajectories. This is important as SRD across socioecological domains is most likely to improve minority health through structural social determinants of health (SDoH). **Methods:** We included 7,057 children (aged 8.91 to 11.08 years old) from the longitudinal Adolescent Brain Cognitive Development Study main study who attended 6 waves of COVID-19 Rapid Response online surveys from 5/16/2020-4/24/2021. We linked individual child cohorts to geocoded Census tract-level Area Deprivation Index (ADI) to characterize sociodemographic SRD. We further aggregated indicators from General Social Survey/National Death Index to characterize state-level racism, sexism, and implicit bias towards sexual orientation and immigrants. Child mental health was assessed using the perceived stress scale (PSS) and COVID-19 related worry at each wave of ABCD-COVID data. We used multilevel generalized mixed-effect analyses to examine the effect of SRD on changes in child mental health. We further differentiated racial/ethnic disparities from SRD using decomposition analyses. **Results:** Children living in the most disadvantaged neighborhoods reported a significantly 4.32% increase in PSS and 2.83% increase in worry, compared with a 0.33% increase in PSS and 2.14% decrease in worry in the most advantaged indicated by ADI. Similar patterns were observed when comparing children living in states with the highest

and lowest decile of SRD. Child PSS trajectories increased when living in states with greater sexism (OR=1.33, 95%CI 1.07-1.65) and lower inclusiveness of sexual minority (OR=1.45, 95%CI, 1.15-1.82). COVID-19 related worry increased with greater state-level racism (OR=1.08, 95%CI, 1.03-1.14) and structural sexual orientation disparities (OR=1.14, 95%CI, 1.05-1.23), adjusting for interpersonal racism and discrimination and SDoH risk factors. Decomposition analysis showed that most of the above disparities in child mental health trajectories are attributable to gaps between White and racial/ethnic minorities in the area with the same SRD, rather than the fact that there are racial/ethnic differences in SRD across various areas. **Conclusions:** Structural racism and discrimination towards sexism and sexual minority elevated the trajectories of mental distress among children during the pandemic. The impact of COVID-19 has further exacerbated the ongoing structural disadvantages among the marginalized populations. Tailored public health interventions at the upstream are needed to reduce further disparities.

#### **No. 23**

##### **Using Mobile Phone Technology to Survey Mental Health, and Access to Care During COVID-19 in People Experiencing Homelessness**

*Poster Presenter: Namrata Walia*

*Lead Author: Jane Hamilton*

*Co-Authors: Jasper Shei, Tina Thomas, M.B.B.S.*

#### **SUMMARY:**

**Background:** People experiencing homelessness (PEH) with serious mental illness (SMI) may be at increased risk for negative physical and mental health outcomes in the context of community spread of COVID-19. Research into the impacts of COVID-19 on this group can be affected by inaccessibility and poor engagement resulting in minimal representation in population-based survey data. **Methods:** A study assessing the feasibility of monthly data collection using mobile phone surveys delivered via a text message link (REDCap) to PEH. One of the objectives of this study was to collect data on participants' mental health symptoms in the context of the pandemic, and their access to social and medical care. Participants were recruited from a

SAMHSA-funded integrated, trauma-informed behavioral health treatment program for PEH with SMI. Smartphone technology was used to administer the surveys using push notifications. Baseline surveys were conducted to assess digital literacy and gather pre-intervention data. Subsequent monthly surveys (PHQ9, GAD7, PCL5, EKAP, Healthcare access) were sent by texts to participants for 5 consecutive months **Results:** A total of 30 participants were enrolled in the study (mean age=49, 85% male). 9 (30%) of the participants were totally unsheltered. The remainder were at risk of homelessness and living in permanent supported housing. More than half (55%) of the participants were Black, followed by White (28%), American Indian (14%) and Alaskan natives (3%). 93% of them reported to be non-Hispanic. Baseline survey indicated that the participants experienced moderate to severe symptoms of depression (56%), anxiety (40%) and post-traumatic stress disorder (53%). More than half reported no exposure to COVID-19. During first month follow up, 83% participants reported using their phones to access health or social care needs as compared to 25% at baseline. The phones were utilized to make or attend appointments, or to contact the provider for other information. The surveys showed a decrease in the median scores of PHQ9 (mean 10.5 to 9) and PCL5 (mean 31 to 19) between baseline and first month time points. GAD7, however, did not show any significant change yet. 40% of the participants were lost to follow up after first month due to loss of phone or other reasons. **Conclusions:** The on-going intervention of providing a high impact and low cost means of improving access to care via mobile health (mhealth) provided a better understanding of the effect of COVID-10 on PEH. Developing a greater understanding of the facilitators and barriers to data gathering and the use of mHealth in this vulnerable population can have wider ramifications outside of COVID-19.

#### **No. 24**

##### **Exposure, Knowledge, Attitude, and Practice Toward COVID-19 in People Experiencing Homelessness in Houston, Texas**

*Poster Presenter: Namrata Walia*

*Lead Author: Tina Thomas, M.B.B.S.*

Co-Authors: Jasper Shei, Nicolette Enenmoh, Jane Hamilton

**SUMMARY:**

**Background/Objective:** The objective of this study was to examine COVID-19 related health behaviors and awareness in people experiencing homelessness (PEH) with serious mental illness (SMI) in the city of Houston in Texas. This is an APAF sponsored 6-month feasibility study of mobile survey data collected monthly via mobile smart phones among PEH with SMI. **Methods** Participants were recruited from a SAMHSA-funded program providing integrated, trauma-informed behavioral health treatment for PEH with SMI. Descriptive analysis of baseline survey data was conducted to examine participants' COVID-19-related exposure, knowledge, attitudes, and practices (EKAP). **Results:** A total of 30 participants completed baseline surveys (mean age=49, 85% male). More than half (55%) of the participants were Black, followed by White (28%), American Indian (14%) and Alaskan natives (3%). 93% of them reported to be non-Hispanic. Majority of the people reported no exposure to people who tested positive COVID-19 (76%) or who might have COVID-19 (80%). 33% reported quarantining themselves for 14 days. They were aware (73%) of the higher risks of complications for people with underlying medical conditions and how COVID-19 can spread from asymptomatic people (73%). However, 27% did not know if children or adults need to take precautions or if the virus could spread through contact with animals (30%). Most described hand washing (90%), social distancing (73%), and mask wearing (80%) as moderately to extremely essential to reduce the spread of the virus. Additionally, isolation and avoiding gatherings were moderately to extremely practiced in only 53% and 60% respectively, while other protective practices were moderately to extremely practiced in a greater percentage: handwashing (76%), mask wearing (83%) and sanitizer (73%). Overall, 43% of PEH felt extremely that COVID-19 was a serious threat to their health. **Conclusion:** Only a minority of participants had known or suspected exposure to COVID-19. Knowledge was good in some respects regarding the disease, but health education could be developed to increase awareness of PEH about COVID-19 transmission and at-risk groups. Initial

findings suggest that certain COVID-19 protection practices are harder for PEH, such as isolation while the majority of PEH in this study had strong attitudes towards the need for prevention to reduce the spread.

**No. 25**

**Systemic Barriers to Drug Treatment in Puerto Rico**

Poster Presenter: Alan Tomas Rodriguez Penney, M.D.

**SUMMARY:**

Nearly two-thirds of Puerto Rico's homeless population suffer from substance use disorders, with many People Who Inject Drugs (PWID) having limited access to treatment. Puerto Rico's drug policy is heavily influenced from the United State's War on Drugs approach starting with the Nixon administration in the 1970s. This led to Puerto Rico's Mano Dura Contra el Crimen, a tough-on-crime approach spearheaded by Pedro Roselló's political campaign in 1993. The result are decades of punitive measures on people who use substances, with limited emphasis on treatment that has ramifications today. Puerto Rico had 600 fentanyl-related overdoses in 2017, with 68 overdose deaths. The number of lethal overdoses in 2018 was 40 and likely undercounted due to disruptions from Hurricane Maria. Outside of methadone treatment, Medication Assisted Treatment (MAT) options in Puerto Rico such as buprenorphine are limited and Vivitrol is not even available. Harm reduction programs such as syringe exchange services (SES) are underfunded. There is only one SES in rural Puerto Rico, with 58% of rural PWID using a SES in the past year. Meanwhile, PWID have a high prevalence of Hepatitis C, with 78% in rural Puerto Rico and 89% in San Juan. Almost 70% of people who access public substance use disorder programs use Medicaid, underlining the importance of ongoing funding. However, Puerto Rico's Medicaid budget is limited by funding caps. Improving Medicaid funding and expanding coverage for treatment options such as Vivitrol and harm reduction services would address structural inequities in Medicaid and help PWID get the care they need.



## No. 26

### **Buprenorphine and Its Therapeutic Potentials in Psychiatric Disorders**

*Poster Presenter: Siddhi Bhivandkar, M.D.*

*Co-Authors: Saeed Ahmed, Ali Khan*

#### **SUMMARY:**

**Background:** Opioid receptor agonists have been shown to be effective in the treatment of some psychotic symptoms, affective symptoms, anxiety, and obsessive-compulsive disorder. Buprenorphine, a partial agonist, has long been used to treat opioid addiction. The purpose of this analytic review study is to determine the efficacy of buprenorphine in treating symptoms of psychosis, depression, anxiety, and suicidality. **Methods:** Using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement recommendations, we systematically searched PubMed, Scopus, EMBASE, Web of Science, and the Cochrane Library from inception to August 2021, keywords included buprenorphine, antidepressant, anti-suicidal, mood stabilizer, and antipsychotic, among others. Using pre-defined eligibility criteria, two independent reviewers screened the titles and abstracts of the identified records. A third reviewer mediated any disagreements. Full texts were then reviewed, and studies that met inclusion criteria were selected. We next assessed study quality using a checklist for the "grading of recommendation, assessment, development, and evaluation (GRADE)" approach. **Results:** We identified 1341 results on initial search. After removing duplicates, studies were screened based on titles, resulting in the inclusion of 419 citations. Abstracts were then screened, which resulted in exclusion of 233 citations. The remaining papers (186) were reviewed for eligibility, a total of 171 papers did not fit the inclusion criteria, resulting in 20 full-text articles that met the inclusion criteria. Of these 4 studies reported a significant reduction in symptoms of depression and some cases of treatment resistant depression, 2 studies reported moderate improvement in anxiety symptoms. 6 studies including 2 case report and a case series, suggested that buprenorphine may be useful in helping to resolve Suicidal ideation and successful treatment of severe NSSI with buprenorphine. 1 study reported reduction in drug resistant OCD with augmentation with Buprenorphine. 5 Studies

reported psychotic symptoms reduction after receiving Buprenorphine monotherapy. 1 study suggested some role of buprenorphine as an augmenting agent for treatment of mania. Overall, the evidence demonstrates buprenorphine's efficacy and therapeutic potentials in psychiatric disorders. **Conclusions:** It is difficult to make a definitive conclusion for buprenorphine's therapeutic potentials in psychiatric disorders as some studies indicate antidepressant, antipsychotic and anxiolytic properties of buprenorphine while others may not. However, it is fair to say that published papers provide some preliminary promise to use the drug to treat psychiatric conditions, particularly in people with co-occurring opioid dependence and psychiatric conditions. Our conclusion is based on a limited number of studies. Larger controlled trials on this topic, however, are required to reach a firm and evidence-based conclusion.

## No. 27

### **Exploration of the Role of Clinical Factors, Patient Treatment Decisions, and Systemic Barriers Among Youth Presenting More Than Once to a Crisis Team**

*Poster Presenter: Abby Lois Wasserman, M.D.*

*Co-Author: Andrew Bell, Ph.D.*

#### **SUMMARY:**

**Background:** Multiple evaluations of children in an ED can cause distress and frustration among families and incur very high costs. Westchester County's Crisis Prevention and Response Team (CPRT) seeks to avert unnecessary hospitalizations/ED visits of children and adults through evaluations, crisis intervention, and active collaboration with families, referrers, and discharge resources. Yet, even with comprehensive planning and referrals, many youth need more than one evaluation by CPRT. The question remains as to why is this necessary. **Methods:** All medical records of patients evaluated by CPRT, 18 years old and younger, from December 2011 to June 2017, were flagged to determine those seen more than once. Demographic variables such as gender, race, age group, and reason for re-evaluation were examined. The CPRT's medical director retrospectively reviewed de-identified medical records to classify reasons for re-evaluations

into three categories: a) clinical concerns (such as worsening of symptoms, new symptoms, and substance misuse), b) patient treatment decisions (such as refusing, not following up, or stopping services), and c) systems-related access issues (such as being refused treatment, being put on a wait list, lack of insurance, lack of transportation, etc.). Categories were not mutually exclusive. **Results:** Of the 2552 youths seen during the given time period, 237 (9.3%) needed to be seen more than once. The time interval between visits ranged from 1 day to over 2 years. 85.6% were seen 2 times, 10.1% were seen 3 times, and 4.2% were seen four times. The schools made the most referrals (47.1%) with the parent/guardian next (26.6%). Children who were evaluated more than once were predominantly male (60.3%), Hispanic/Caribbean (47.2%), and African-American (22.8%). Adolescents were most strongly represented (77.2%; ages 12-14: 43.9%, ages 15-18: 33.3%). Diagnoses remained relatively stable from the first to subsequent visits (60.3%). Among the reasons for re-evaluation, 28.9% involved clinical concerns, 44.2% involved patient treatment decisions, and 26.9% involved systems-access issues. Fully 29.0% of the latter category involved schools requiring "clearance letters" to allow the student to return to classes. **Conclusion:** Children appear to require CPRT re-evaluations for multiple reasons. Less than a third of re-evaluations involved clinical concerns, whereas more than a quarter were directly attributed to barriers in obtaining timely and appropriate access to services. Some of these obstacles related to an overburdened mental health and education system, whereas others involved gatekeeping practices which used the CPRT for non-emergent functions such as intake assessments and to mitigate organizational risk. These preliminary findings underscore that access to mental health treatment is a Social Determinant of Health that has a profound impact not only on children and families, but also the larger mental-healthcare ecosystem.

## No. 28

### Primary CNS Lymphoma and Secondary Causes of Mania: A Case Report and Literature Review

Poster Presenter: Chris Wang, M.D.

Co-Author: David Craig Fipps, D.O.

## SUMMARY:

**Introduction** Mania can be from primary etiology, as seen in bipolar disorder, or resulting from secondary causes. In DSM-5, secondary bipolar disorder is characterized as disturbances generally caused by another medical condition or induced by a substance or medication (APA, 2013). These disturbances often cause similar symptoms and presentations as primary mania. The prevalence of secondary mania is variable due to its multitude of potentiating factors. We present a case of secondary mania in a man in his late with a complex medical history where multiple aspects and realms of his clinical picture could have contributed to his manic presentation.

**Case** This is a man in his late 60s with no past psychiatric history who was found to have aggressive, myeloid differentiation primary response 88 (MYD88) positive, primary large B-cell CNS lymphoma measuring 49.78 x 26.03 mm in the right frontal lobe. He was treated with an intricate chemotherapy regimen for four months and eventually received a stem cell transplant. His medical management was also complicated by a 7 mm subdural hematoma. He came to psychiatric attention after developing secondary mania which required inpatient psychiatric hospitalization and medication stabilization with mood stabilizers and neuroleptics. His complicated case created a diagnostic conundrum where no single factor was identified to be the cause of his mania, thus requiring a close look into the many different factors that likely contributed to his presentation.

**Discussion** This case provides an opportunity for a valuable discussion regarding secondary mania as it pertains to our patient. There were multiple factors that could have acted as a catalyst or exacerbating component to his manic episode including the location of his primary CNS lymphoma (PCNSL), the intricate chemotherapy treatment regimen, his traumatic brain injury, and subsequent subdural hematoma. PCNSL has been shown to be highly correlated with psychiatric symptoms with studies showing up to 43% of patients initially presenting solely with neuropsychiatric sequelae that eventually lead to the discovery of the underlying PCNSL (Eichler and Batchelor, 2006). In addition, reviews of adult-onset mania following focal brain lesions indicate roughly 60% of patients' lesions involve the right hemisphere with preference in the frontal lobe

(Barahona-Correa et al, 2020). Furthermore, our patient's cancer treatment regimen included corticosteroids, methotrexate, and baclofen which all have literature to support mania induction and/or mood destabilization. In our presentation, we will highlight each of these factors and discuss the literature surrounding their potential to influence a manic presentation. Lastly, we will provide future directions on how such a complex, multifactorial case of secondary mania can be optimally managed in the future.

#### **No. 29**

##### **Comorbid Psychogenic and Epileptic Seizures in a 17-Year-Old Female With MELAS Syndrome**

*Poster Presenter: Joshua Hamilton, M.D.*

*Co-Authors: Zachary Robert Arnold, M.D., Stephanie Renee Brooks, D.O., Paul Lee, M.D.*

#### **SUMMARY:**

Mitochondrial disorders, such as mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes (MELAS), are genetic disorders affecting oxidative phosphorylation that can frequently lead to neurologic sequelae in children.<sup>1</sup> Epileptic seizures have been reported to occur in 35-60% of cases of MELAS and other mitochondrial disorders.<sup>1</sup> The relationship between MELAS and psychiatric disease is less well understood. There is limited case literature describing a possible association between mitochondrial disorders with depression, anxiety, and psychosis.<sup>2</sup> Typical (i.e., non-mitochondrial) pediatric epilepsy is known to be associated with a higher prevalence of co-occurring psychiatric conditions to include depression, anxiety, and attention-deficit/hyperactivity disorder.<sup>3</sup> Additionally, psychogenic nonepileptic seizures (PNES) are frequently misdiagnosed as epilepsy in the pediatric population, and importantly may be comorbid with epilepsy in up to 5-20% of cases.<sup>4</sup> Distinguishing PNES from epileptic seizures in patients with a confirmed diagnosis of epilepsy can be difficult. This differentiation carries treatment implications, to include the use of antiepileptics, mitochondrial supplements such as arginine, and/or reassurance. This poster will present a case of a 17-year-old female with genetically confirmed MELAS with prior epileptic seizures who presented to the

hospital with PNES without epileptiform activity on EEG monitoring. Diagnostic considerations differentiating PNES from epileptic seizures in patients with known mitochondrial disorders, as well as the psychosocial factors affecting this patient's medical diagnosis, will be described. Finally, the authors will discuss treatment options for patients with MELAS and co-occurring psychiatric conditions, including concurrent anxiety disorders. Disclosure: The views expressed in this abstract are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the US Government. Informed consent was obtained from the patient to write and publish this case report.

#### **No. 30**

##### **A Rare Case of Psychosis Due to DiGeorge Syndrome and COVID-19**

*Poster Presenter: Kyle Armstrong, D.O.*

*Co-Author: Dahlin Jackson*

#### **SUMMARY:**

This case report explores the presentation of novel psychosis in an adolescent with a dual diagnosis of diGeorge syndrome and COVID-19 in the emergency department. Despite the low risk of COVID complications in the pediatric population, the concomitant factors of DiGeorge syndrome and COVID likely led to the patient's psychotic presentation. Psychosis is traditionally diagnosed clinically. The five major positive symptoms of psychosis are 1) unusual thought content/delusional ideas, 2) suspiciousness/persecutory ideas, 3) grandiosity, 4) perceptual abnormalities/hallucinations, and 5) disorganized communication. The patient in the case series presented with 3 of these 5 symptoms and concern for underlying psychotic disorder. Due to the patient's presentation of visual hallucinations, this suggested a diagnosis of psychosis secondary to a medical condition rather than primary psychosis. Complicating medical factors included COVID-19 and diGeorge syndrome. Although COVID's pathophysiology for causing psychosis still needs to be further understood, we can deduce possible mechanisms by looking at prior studies on other COVID subtypes. The viral illness spread

hematogenously through the blood-brain barrier, cytokine storm, or post-infectious cell or antibody-mediated CNS syndromes could have been the mechanism behind this patient's psychiatric illness. In addition, having DiGeorge syndrome gave the patient a propensity to psychosis and it brings into question if the patient had not contracted COVID, would the psychosis have manifested. The poster will explore etiological backgrounds to this patient's novel psychosis, including a discussion of treatment modalities best suited for adolescents. The patient's treatment was complicated by the acute care setting, a complicated regimen of herbal supplements, and a family concerned about the initiation of antipsychotics. Despite the setting, the patient required careful consideration in light of multiple biopsychosocial components.

#### **No. 31**

##### **Knowledge-Guided Association Between Psychological Impact and Social Distancing During COVID-19: A Twitter-Based Study**

*Poster Presenter: Mohit Manoj Sharma*

*Co-Authors: Rohith Kumar Thiruvalluru, Manas Gaur, Jyotishman Pathak*

#### **SUMMARY:**

**Background:** The COVID-19 pandemic has significantly impacted the health, economy, and well-being of the masses globally. To minimize the spread of the virus, several non-pharmaceutical interventions (NPIs), such as social distancing, were adopted across the US. However, reports suggest that specific segments of the US population were either unable to or unwilling to maintain social distancing. In this study, we analyze data from Twitter using expert-guided analysis and machine learning methods to understand the psychological changes discussed through tweets due to adoption of social distancing. **Methods :** We analyzed 14.7 million tweets from 03/14/20 - 05/14/20 from any user account who is not an official CDC Twitter handle. A knowledge-guided semantic clustering and tagging workflow was implemented using a comprehensive lexicon on mental health-related issues (COVID-19-MH). We created groups of Twitter users based on their tweet hashtags and abstracted the tweet content of each user across the three

groups, (G1) individuals who voluntarily practiced social distancing, (G2) individuals who could not practice social distancing due to their current professional situation, (G3) individuals who did not practice social distancing due to personal beliefs. by leveraging text rank and embedding methods for generating candidate sets of entities. We clustered users within each group using k-means clustering to identify various mental health-related conditions and study their association with prior clinical studies. Finally, we analyzed social media tweets for mentions of mental health-related symptoms and conditions. **Results :** Employing a large-scale Spatio-temporal analysis and COVID-19-MH lexicon, we identified multiple mental health issues expressed by individuals in all the groups. Individuals in G2 reported a cumulative sum of 24200 events concerning mental health issues followed by G1 (18700 events) and G3 (22,500 events). Individuals in G3 expressed anxiety and phobias due to social distancing. Increased anxiety and sleep-related issues were recorded in G1, whereas hormonal issues, depression, and suicidal tendencies were high (26.13%) in G2. We found subtle differences in mental health symptoms identified while clustering users in groups G1, G2, and G3 during each phase of the circadian clock in each group. Results derived after applying the semi-supervised approach to the data were consistent with the findings in the literature. **Discussion:** This study used social media data from Twitter to gain deeper insights into diverse mental health symptoms expressed by different groups. The study shows co-occurrence in psychiatric symptoms in different groups and identifies trends in the symptomatology that correlate with major public health events for contagion control. The proposed architecture and the population-level insights can help public health experts measure response towards policies and perform apropos distribution of psychiatric care.

#### **No. 32**

##### **Disentangling the Associations Between Psychiatric Disorders and COVID-19: A Retrospective Cohort Study Using Clinical Data**

*Poster Presenter: Mohit Manoj Sharma*

*Co-Authors: Rohith Kumar Thiruvalluru, Katherine Keyes, Yunyu Xiao, Catherine Gimbrone*

**SUMMARY:**

**Background:** The potential complications of the COVID-19 pandemic are extensive and multi-faceted. Yet, we lack efficient techniques to effectively model surveillance of COVID-19 infection and psychiatric disorders. We developed a heuristic technique to identify the psychiatric sequelae of COVID-19 to be measured reliably in terms of clinical diagnoses using electronic health records (EHRs). Such information is key to supporting clinicians and public health professionals in formulating timely prevention and interventions. **Methods:** We analysed EHR data from Healthix, the nation's largest health information exchange, on individuals either tested for or diagnosed with COVID-19 across New York City (1/3/2020-5/31/2021). Data from 62 counties and 551 health systems, community clinics, hospitals, academic medical centres, and "pop-up" COVID-19 testing facilities across NYC were analysed. We use a heuristic technique to identify patients with multiple COVID-19 lab tests with differing results. We used ICD-10 codes to identify psychiatric disorders (mood disorders, anxiety disorders, psychotic disorders, and substance use disorders). We identified a cohort with a history of psychiatric disorders (3 years before COVID-19 exposure). We tested statistical differences between groups using Kolmogorov-Smirnov and t-tests. **Results:** Out of 2,357,334 unique patients, 897,308 (36.1%) had a prior history of psychiatric disorder, among which 386,560 patients (43.2%) tested negative, 2,248,374 (27.6%) tested positive but not hospitalized, and 263,359 (29.3%) were hospitalized due to COVID-19. Of those hospitalized due to COVID-19, 72.3% were subsequently diagnosed with psychiatric disorders, of which mood disorders were most common (35.6%), followed by psychosis (23.5%). Similarly, 73.2% of patients with a positive COVID-19 test without hospitalization were later diagnosed with a psychiatric disorder, with mood disorders (33.5%) again being the most common. The prevalence of psychiatric diagnoses across the three groups was statistically significant ( $p < 0.05$ ). Among the patients hospitalized due to COVID-19, 50.8% were diagnosed with mood disorders, 43.3% with psychosis, and 53.5% with substance use disorders between 7-12 months, and 50.5% with anxiety disorders that occurred within 0-6 months after a positive COVID-19 test. Similar patterns were observed in patients

who tested positive but not hospitalized. **Discussion:** Among the patients with a prior psychiatric history, mood disorder was highest among those who had tested positive or been hospitalized for COVID-19. Psychiatric diagnoses were the highest between 7-12 months after a positive COVID-19 test. Our findings using a heuristic search facilitate the understanding of the relationship between COVID-19 exposure and psychiatric disorders.

**No. 33****Antidepressant Responses of Esketamine Nasal Spray and Atypical Antipsychotics in Pivotal Phase 3 Trials: A Meta-Analysis**

*Poster Presenter: Guang Chen*

*Co-Authors: Lien Wang, Xiaojing Gu, Dong Fu, Xiaowei Chen*

**SUMMARY:**

**Background:** The US FDA has approved SPRAVATO™ (esketamine) nasal spray (ESK) as a conjunctive treatment with an oral antidepressant for treatment-resistant depression (TRD) and major depressive disorder (MDD) with acute suicidal ideation or behavior. Several atypical antipsychotics (AAPs) have also been approved as adjunctive treatments for MDD. This meta-analysis explored if these mechanistically different treatments differ in antidepressant outcomes in patients with MDD who experienced inadequate response to antidepressants. **Methods:** The data retrieved included those fulfilling trial requirements similar to the specifications of a previous meta-analysis (Dold et al., 2020) and a sub-dataset from 12 phase 3 pivotal AAP trials on aripiprazole, brexpiprazole, quetiapine, olanzapine, and ESK. Trial outcome measures were Montgomery-Åsberg Depression Rating Scale (MADRS) total score changes from baseline to Week 1 (if available) and the end point, respectively, and response (=50% decrease of MADRS total score from baseline) rates at the end point. Antidepressants, newly initiated or continuing, were used in both placebo and active arms of all trials analyzed. The R package "metafor" was used for statistical analysis on summary-level data. **Results:** At the end point, the mean difference (95% CI) in MADRS score reduction between the pooled placebo and ESK arms was -4.24 (-7.21, -1.37),

p=0.0038; between the pooled placebo and AAP arms was -2.06 (-2.61, -1.51), p<0.0001 in the dataset of all included trials (all-dataset), and -2.37 (-3.16, -1.58), p<0.0001 in the sub-dataset of 12 pivotal phase 3 trials. The mean treatment differences (active versus placebo treatment) between the ESK and AAP trials were 2.18 points (all-dataset) and 1.87 points (sub-dataset) in favor of ESK but not statistically significant. In the sub-dataset, the mean treatment difference in response rates (versus their placebo arms) was bigger in ESK arms than that in AAP arms (ESK, +25%; AAP, +9%; difference between ESK and AAP, +16%; p=0.0004). At the Week 1 timepoint of pivotal phase 3 trials, the mean difference (95% CI) in MADRS score reduction between the placebo and active arms in ESK trials (-2.95 [-4.50, -1.40], p=0.0002) were 1.71 and 2.06 points greater than those in aripiprazole trials (-1.24 [-2.09, -0.39], p=0.0043) and brexpiprazole trials (-0.89 [-1.61, -0.18], p=0.0142), respectively.

**Conclusions:** At the end point, ESK arms displayed significantly greater response rates and numerically larger MADRS score reductions than the AAP arms compared to their respective control arms. Numerically larger MADRS score reductions with ESK were also observed at Week 1. Due to limitations of meta-analysis using studies with differing designs, a prospective study is needed to confirm these findings.

#### No. 34

##### The Effects of Ibuprofen Consumption on the Incidence of Postpartum Depression

Poster Presenter: Leonid Kapulsky, M.D.

###### SUMMARY:

**Objectives:** Postpartum depression (PPD) is a common and debilitating psychiatric condition whose etiology is yet to be fully elucidated. Anti-inflammatory medications have been shown to be effective in the treatment of major depressive disorder (MDD) but there have only been a few trials examining whether anti-inflammatory medications are effective prophylactic agents against the development of MDD. Prophylaxis against PPD with anti-inflammatory agents has never been studied.

**Materials and Methods:** We performed a prospective observational trial examining whether

consumption of higher doses of the nonsteroidal anti-inflammatory drug ibuprofen is associated with a lower incidence of PPD. We recruited high-risk women and collected data on Edinburgh Postnatal Depression Scale, Patient-Reported Outcome Measurement Information System pain scale and clinical assessment of PPD at postpartum weeks 0, 3, and 6. Subjects were instructed to keep a log of medication consumed. Results: When looking at the total sample, we found that higher consumption of ibuprofen was associated with lower incidence of PPD, although this result was nonsignificant (P = 0.26). When we stratified by concurrent psychotropic medication, we found that among women not taking psychotropic medications, higher consumption of ibuprofen at week 3 was significantly associated with a lower likelihood of having PPD at week 3 (P = 0.03). **Discussion:** We found that ibuprofen consumption was significantly associated with a reduced risk of development of PPD at week 3 among high-risk women not taking psychotropic medications

#### No. 35

##### Emotion Dysregulation Predicts Outcome of CBT and MBCT in Major Depression. A Pilot Randomized Controlled Trial

Poster Presenter: Sabrina Paterniti, M.D., Ph.D.

Co-Authors: Kelsey Collimore, Ph.D., Connie Dalton, Ph.D., Irit Sterner, Ph.D., Kelley Raab, Ph.D.

###### SUMMARY:

**Background:** Cognitive Behavioural Therapy (CBT) and Mindfulness-Based Cognitive therapy (MBCT) have both been shown to be effective in treating depressive symptoms in major depressive disorder (MDD), but the effectiveness in “real world” practice remains lower than efficacy in clinical trials. Preliminary studies show that emotion regulation difficulties (ERD) may predict treatment outcome.

**Objectives:** To examine whether ERD and rumination predict the outcome in CBT and MBCT.

**Methods:** This parallel two-arm pilot trial took place in Canada. Adult participants with current MDD were recruited from a tertiary care psychiatric hospital and two private practice psychiatrists between November 2015 and October 2017 and randomized to 12 weeks of individual MBCT (n=14) or CBT

(n=13). Self-reported depressive symptoms, rumination and ERD were measured at the beginning and end of treatment and at 8-week follow-up.

**Results:** Depressive symptoms improved significantly during both CBT ( $d_{\text{rm}} = -1.32$ ) and MBCT ( $d_{\text{rm}} = -0.96$ ). In the whole sample, baseline ERD and rumination were not associated with the change in depression severity between baseline and end of treatment; however, both measures were associated with an increase in depression severity between the end of treatment and 8-week follow-up, adjusting for the baseline scores of depression, treatment, age and sex (ER difficulties:  $B(SE) = 0.36(1.13)$ ,  $p = 0.005$ ; rumination:  $B(SE) = 0.63(0.27)$ ,  $p = 0.02$ ). **Conclusions:** Higher levels of ERD and rumination were associated with poorer maintenance of benefits of CBT and MBCT at 8-week follow-up. Future studies should investigate whether targeting ERD and rumination within these models of therapy or prior to treatment would lead to higher rates of maintenance.

#### No. 36

##### **The Safety, Efficacy, and Tolerability of a Microbial Therapeutic in People With Major Depression and/or Generalized Anxiety Disorder: Clinical Findings**

*Poster Presenter: Arthi Chinna Meyyappan, M.Sc.*

*Co-Author: Roumen V. Milev, M.D., Ph.D.*

#### **SUMMARY:**

**Background/Objective:** The bidirectional biochemical signalling between the gut microbiota and the brain, known as the gut-brain axis, is being heavily explored in current neuropsychiatric research. Analyses of the human gut microbiota have shown considerable individual variability in bacterial content which is hypothesized to influence brain function, and potentially mood and anxiety symptoms, through gut-brain axis communication. Preclinical and clinical research examining these effects suggests that fecal microbiota transplant (FMT) may aid in improving depression and anxiety symptoms and severity by recolonizing the gastrointestinal tract with healthy bacteria. The microbial therapeutic used in this study is an alternative treatment to FMT that is composed of various strains of gut bacteria from a health donor. The primary objective of this study is to assess

subjective changes in mood and anxiety symptoms before, during, and after administration of the microbial therapeutic. The secondary objectives of this study are to assess changes in metabolic functioning and level of repopulation of healthy gut bacteria, safety and tolerability of therapeutic, and effects of early stress on biomarkers of depression/anxiety and response to treatment.

**Method:** Twelve treatment-naïve adults diagnosed with major depressive disorder or generalized anxiety disorder were recruited from the Kingston area. Participants orally consumed once daily an encapsulated microbial therapeutic, containing 40 strains of bacteria purified and lab-grown from a single healthy donor stool, for 8 weeks. Participants underwent a series of clinical assessments measuring mood, anxiety, and GI symptoms using validated clinical scales and questionnaires. Molecular data was collected from blood and fecal samples to assess metabolic changes, neurotransmitter levels, inflammatory markers, and level of engraftment for fecal samples to predict outcomes in depression or anxiety. **Results:** Seven of twelve individuals responded to treatment (50% improvement in MADRS/GAD-7 scores since starting treatment). Over the 10 weeks, MET-2 significantly decreased MADRS and GAD-7 scores,  $F(1,11) = 21.6121$ ,  $p = 0.001$  and  $F(1,11) = 18.088$ ,  $p = 0.001$ , respectively. Similarly, in this trial, we expect patients' mood symptoms to improve over the course of the study as a result of changes in their gut microbiome composition and biomarker levels. This improvement may be mediated by the recolonization of the gastrointestinal tract with healthy bacteria. **Conclusion:** These preliminary findings are the first to provide evidence for the role of microbial therapy in potentially treating depression and anxiety.

#### No. 37

##### **Cariprazine for the Adjunctive Treatment of Major Depressive Disorder: Results of a Randomized Phase 3 Placebo-Controlled Study (Study 301)**

*Poster Presenter: Gary Sachs*

*Co-Authors: Paul Yeung, Ludmyla Rekada, Arifulla Khan, Maurizio Fava*

## SUMMARY:

**Background:** Patients with major depressive disorder (MDD) often do not respond to antidepressant (ADT) monotherapy; adjunctive treatment is often used to address this unmet need. Cariprazine (CAR), a dopamine D<sub>3</sub>-preferring D<sub>3</sub>/D<sub>2</sub> and serotonin 5-HT<sub>1A</sub> receptor partial agonist approved to treat adults with manic, mixed, or depressive episodes of bipolar I disorder, is under investigation as adjunctive therapy for patients with MDD.

**Methods:** This randomized, double-blind, phase 3 placebo (PBO)-controlled study assessed the efficacy, safety, and tolerability of CAR 1.5 and 3 mg/d as an adjunct to ADT in adult patients with MDD (18-65 years) and inadequate response to ADT alone (NCT03738215). The primary endpoint was change from baseline to week 6 in Montgomery-Åsberg Depression Rating Scale (MADRS) total score, Hamilton Depression Rating Scale (HAM-D-17), Hamilton Anxiety Rating Scale (HAM-A), and Clinical Global Impressions (CGI) were also assessed.

Treatment response was defined as at least 50% decrease in MADRS total score at week 6. **Results:** Patients (n=751) in the modified intent-to-treat population were randomly assigned to CAR 1.5 mg/d+ADT (n=250), CAR 3 mg/d+ADT (n=252) or PBO+ADT (n=249). Mean age was 44.8 years and 73.4% were female; mean baseline total scores were: MADRS=32.5, HAM-D-17=25.9, HAM-A= 21.4. Overall, 89.7% of patients completed the study; rates of discontinuation due to adverse events (AEs) and lack of efficacy were 3.6% and 0.5%, respectively. The difference in MADRS total score change from baseline to week 6 was statistically significant after multiplicity adjustment for CAR 1.5 mg/d vs PBO (-14.1 vs -11.5; adjusted  $P=.0050$ ), but not for CAR 3 mg/d (-13.1;  $P=.0727$ ). Differences for CAR 1.5 mg/d vs PBO were observed by week 2 (nominal  $P=.0453$ ) and maintained at weeks 4 (nominal  $P<.0001$ ) and 6 (nominal  $P=.0025$ ). At week 6, more CAR 1.5 mg/d patients (44%) than PBO patients (34.9%) responded to treatment (nominal  $P=.0446$ ). Greater improvement in the CGI-I scores was observed for CAR 1.5 (nominal  $P=.0026$ ) and 3 mg/d (nominal  $P=.0076$ ) vs PBO. At week 6, improvement in HAM-D-17 total score reached nominal significance for CAR 1.5 mg/d vs PBO (-13.1 vs -11.1; nominal  $P=.0017$ ), but not for CAR 3

mg/day (-12.2;  $P=.0783$ ). HAM-A improvement was greater for CAR 1.5 mg/d vs PBO (nominal  $P=.0370$ ). There were no deaths; 2 serious AEs occurred in each group (CAR: kidney infection, social stay hospitalization; PBO: depression; multiple sclerosis). The most common CAR AEs (=5% and twice PBO) were akathisia and nausea. **Conclusion:** Cariprazine 1.5 mg/d was effective as adjunctive treatment in adults with MDD and inadequate response to ADT. Cariprazine was generally well tolerated, with a safety profile that was consistent with other indications. Together with results from a prior flex-dose study, these results suggest that adjunctive cariprazine may be an effective option for patients with inadequate response to ADT alone. Supported by AbbVie.

## No. 38

### Reduction of Chronic Migraines With Intranasal Esketamine for Depression

Poster Presenter: Sireena Sy, M.D.

Co-Authors: Kimmy Maguire, Darren Freeman, D.O., Christopher Fichtner, M.D.

## SUMMARY:

Intravenous (IV) ketamine has previously shown positive benefits for chronic migraine and pain syndromes, especially in emergent settings. It has also been used off-label for treatment of major depressive disorder. Intranasal esketamine (Spravato), now approved for use in treatment-resistant depression (TRD), has not been extensively evaluated in the context of pain management. Here we detail a case of a 53-year-old female patient with a long history of recurrent major depressive disorder, chronic migraines, and fibromyalgia who received intranasal esketamine for TRD. This patient had shown treatment resistance with multiple trials of oral antidepressants, and treatment intolerance due to headaches and hypertension. Multiple augmentation agents were also tried with limited efficacy. Early in the course of esketamine treatment (56 mg twice a week), the patient experienced improvement in depressive symptoms, noted incidental resolution of lingering migraine symptoms not previously controlled by other pain or abortive treatments, and subsequently reported sustained reduction in migraine frequency even with transition



of esketamine dosing to once weekly. Although ketamine, given IV or intranasally, has been reported beneficial for migraine and other pain syndromes, study of intranasal esketamine in pain management has been very limited. Our observations in this case, in which intranasal esketamine treatment for TRD was associated with general and lasting improvement in chronic migraines, prompt us to consider whether this treatment may be of particular benefit for other depressed patients who suffer concurrently with migraine or other pain conditions.

#### No. 39

##### **Late-Life Social Activities as Protective Experiences Against Depression Among Those With Alzheimer's Disease**

*Poster Presenter: Kerry A. Howard, M.S.*

*Co-Authors: Mackenzie Stuenkel, M.S., Sarah F. Griffin, Ph.D., Lior Rennert, Ph.D.*

#### **SUMMARY:**

**Background:** History of depression has been identified as a risk factor for Alzheimer's disease (AD) and AD patients frequently present with depression symptoms.<sup>1-3</sup> Given that an active lifestyle in late life, such as participation in cognitive, physical, and social activities, has been suggested as protective against clinical presentation of AD,<sup>4-8</sup> the purpose of this study was to investigate whether increased late-life activities also reduce the odds of depression as a comorbidity. **Methods:** The study used data from 1352 participants in the Rush Memory and Aging Project, an ongoing cohort study.<sup>9</sup> These participants were  $\geq 65$  years old (65-100), without a depression diagnosis at baseline, and dementia-free at baseline, with 437 diagnosed with AD at their most recent yearly follow-up. Participants with more frequent participation in activities at their most recent visit compared to baseline were classified as having increased participation for each respective type of activity (cognitive, physical, and social). Proportional cumulative logit models, adjusted for age, race, sex, and education, examined the association between increased activities and depression severity, quantified as number of symptoms from the Center for Epidemiological Studies Depression index.<sup>10</sup>

Separate models were used for healthy and AD populations, with all activities included as predictors to examine the strength of an activity type's association with control for the other activities.

**Results:** Among healthy participants, the odds of greater depression severity for those with increased physical activity were 0.71 (95% CI: [0.53,0.96],  $p=.025$ ) times the odds of those who had the same or decreased physical activity. Among participants with AD, increased social activities emerged as highly protective. Increased social activity was protective above the influence of physical and cognitive activities, with 0.42 (95% CI: [0.21,0.84],  $p=.014$ ) times the odds of greater depression severity of those without increased activity. **Conclusions:** Sustained physical activity in late life may protect against depression, a risk factor for later AD, within currently healthy patients; however, social activities emerged as more protective among persons diagnosed with AD. Therefore, while previous research shows late life activities as protective against symptoms of AD, this study shows a potential added benefit of social activities once AD symptoms have manifested by reducing the burden of depression for patients. The difference between healthy participants and those with AD suggests that interventions may need to emphasize different activities based on a patient's cognitive status. Features of the community and social context that promote continued social integration, support, and engagement may be particularly beneficial for AD patients. Future research should examine elements of the community and social context to identify specific modifiable factors to improve quality of life for these patients.

#### No. 40

##### **Efficacy and Safety of AXS-05 in the Prevention of Relapse in Patients With Treatment-Resistant Depression: Results From the MERIT Trial**

*Poster Presenter: Amanda Jones*

*Co-Authors: Ashley Anderson, Herriot Tabuteau*

#### **SUMMARY:**

**Background** Nearly two-thirds of patients with major depressive disorder (MDD) do not experience adequate response to first-line therapy, and most also fail second-line treatment. Patients who have

not responded to at least 2 different antidepressants in the current depressive episode are considered to have treatment-resistant depression (TRD). Patients with TRD experience relapse of depressive symptoms at an even higher rate than do those with treatment-responsive MDD. AXS-05 (dextromethorphan-bupropion) is a novel, oral, investigational NMDA receptor antagonist with multimodal activity. The dextromethorphan component of AXS-05 is an uncompetitive antagonist of the NMDA receptor, an ionotropic glutamate receptor, and sigma-1 receptor agonist, and the bupropion component serves primarily to increase the bioavailability of dextromethorphan. **Methods** The MERIT trial was a randomized-withdrawal, double-blind, placebo-controlled, multi-center study to evaluate AXS-05 compared to placebo in delaying relapse of depressive symptoms in patients with TRD, who were in stable remission after treatment with AXS-05. Eligible subjects were patients with TRD who participated in a prior open-label study with AXS-05 (AXS-05-303) and were in stable remission. The dose of AXS-05 was 45 mg dextromethorphan-105 mg bupropion twice daily. Stable remission was defined as at least two consecutive MADRS scores of  $\leq 12$ , separated by at least 4 weeks. Subjects meeting these criteria were randomized (1:1) to either continue receiving treatment with AXS-05 or to switch to placebo treatment for up to 52 weeks. The definition of relapse included a MADRS score  $\geq 18$  for two consecutive assessments separated by 7-21 days or a  $\geq 2$  point change from randomization on the CGI-S (with a minimum CGI-S score of 4) for two consecutive assessments separated by 7-21 days. The primary objective of the study was the delay in relapse of depressive symptoms, for AXS-05 as compared to placebo, in subjects with TRD who are in stable remission. The key secondary endpoint was the prevention of relapse of depressive symptoms. **Results** A total of 44 subjects were randomized to AXS-05 (n=22) or placebo (n=22). AXS-05 met the primary endpoint by substantially and statistically significantly delaying the time to relapse of depressive symptoms as compared to placebo ( $p=0.002$ ), with no relapses observed with AXS-05 over at least 6 months of double-blind treatment. AXS-05 also met the key secondary endpoint of relapse prevention, based on the rates of relapse over the double-blind treatment period (0.0% for

AXS-05, 36.4% for placebo,  $p=0.004$ ). AXS-05 was well tolerated in the trial. There were no treatment-emergent adverse events reported in  $>1$  subject in the AXS-05 group. **Conclusion** Treatment with AXS-05 significantly delayed the time to relapse of depressive symptoms compared to placebo.

#### No. 41

#### **A Novel Mechanism for the Treatment of MDD: A Phase 2 Study of the Potassium Channel Opener XEN1101 in Moderate to Severe Major Depressive Disorder**

*Poster Presenter: Constanza Luzon Rosenblut*

*Co-Authors: Cynthia Harden, Greg Beach, Rizalyn Golnar, Christopher Kenney*

#### **SUMMARY:**

**Background:** Resilience is proposed to be an active coping mechanism to stress induced depression<sup>1</sup>. One active neural mechanism of resilience is the normalization of firing rate of ventral tegmental area (VTA) dopaminergic neurons, as observed in the chronic social defeat stress model (CSDS)<sup>2</sup>. Friedman et al demonstrated that overexpression of  $K_{v}7.3$  in the VTA dopaminergic neurons normalized neuronal hyperactivity and depressive behaviors in the CSDS model in mice<sup>3</sup>. The same effect was achieved with local or systemic infusion of the first-generation  $K_{v}7$  channel opener ezogabine. Both an open-label and a double-blind, randomized study showed significant effects of ezogabine on depression symptoms, including anhedonia, in subjects with moderate to severe Major Depressive Disorder (MDD)<sup>4,5</sup>. Depression is common in epilepsy, and it can affect quality of life and treatment adherence<sup>6</sup>. Moreover, some of the most commonly used antiseizure medications can cause or exacerbate mood symptoms<sup>7</sup>. XEN1101 is a "next generation"  $K_{v}7$  potassium channel opener currently being developed for the treatment of epilepsy. Results from a recently completed large phase 2 study in subjects with focal onset seizures showed a significant effect in reducing seizure frequency and a favorable safety profile. XEN1101 was assessed in the progressive ratio test, a protocol that evaluates motivational performance and decisional anhedonia in rats. In this test XEN1101 increased the total number of lever

presses, indicating improved motivation versus vehicle. Based on the above evidence, a phase 2, double-blind, proof-of-concept study is planned to start in 2022, with the objective of assessing the efficacy, safety and tolerability of XEN1101 in subjects with moderate to severe MDD. **Methods:** The main eligibility criteria for the study are a primary diagnosis of moderate to severe MDD, confirmed by the MINI, a HAM-D score of  $\geq 20$ , a Snaith-Hamilton Pleasure Scale (SHAPS) score of  $\geq 20$  and no current use of psychotropic medications. Eligibility will be confirmed using the State versus Trait, Assessability, Face Validity, Ecological Validity, Rule of Three Ps (SAFER) criteria inventory performed by a remote centralized rater<sup>8</sup>. Approximately 150 subjects will be randomized to treatment with XEN1101 20 mg QD, XEN1101 10 mg QD or placebo (1:1:1) for 6 weeks. The primary efficacy endpoint is change in the MADRS score from baseline through week 6. Secondary endpoints include changes in the SHAPS score and BAI score to assess effects on anhedonia and anxiety. Exploratory endpoints include changes in the CGI-I and PGI-I and change in sleep parameters and activity measures utilizing a wearable biometric device. **Conclusions:** XEN1101 represents a novel molecular mechanism to potentially treat depression. The results of the phase 2 trial described above will help evaluate the efficacy and safety of this compound and inform further development.

#### No. 42

##### **The Implication of Nonpsychiatric Medications in Serotonin Syndrome**

*Poster Presenter: Govind Raghavan, M.D., M.B.A.*

*Co-Author: Lawrence Kaplan*

##### **SUMMARY:**

Background: Serotonin syndrome is an acute clinical syndrome of serotonin toxicity that consists of altered mental status, neuromuscular hyperactivity, and autonomic instability.<sup>1,2</sup> While commonly attributed to antidepressants, there are many medications that have serotonergic activity and can contribute to serotonin toxicity.<sup>1</sup> Below is a case report of serotonin syndrome from the psychiatry consult service at an academic institution. Case: Mr. S is a 28 year old man with multiple myeloma and

schizoaffective disorder bipolar type who was admitted to the hematology-oncology service for autologous stem cell transplant for multiple myeloma. On hospital day 11, psychiatry was consulted due to concern for delirium as the patient on day 10 became confused, endorsed hallucinations, and was emotionally labile. During our assessment, Mr. S. was only oriented to person and place, had impaired memory, was hallucinating, and was emotionally distressed. He was diaphoretic, tachycardic, and physically uncomfortable. Most notably, he had significant neuromuscular hyperactivity with spontaneous jerking of his lower extremities (sometimes kicking his legs while seated), numerous beat inducible clonus in bilateral lower extremities, visible twitching in his upper and lower extremities, and upper extremity tremors. Per collateral from his wife, he was in his normal mental state until day 10 after which there was a significant change. Additionally, she reported that he has chronic muscle spasms at baseline for which he takes cyclobenzaprine 5 mg TID but nothing close to the severity of movements present since day 10, which she described as seizure-like. Review of Mr. S's medications revealed that he was taking home medications of duloxetine 60 mg, lurasidone 40 mg, and controlled release morphine 60 mg, and medications started in the hospital of ondansetron, prochlorperazine, dronabinol, antibiotics, oxycodone, and famotidine. Additionally, his home cyclobenzaprine of 5 mg TID had been increased to 10 mg TID on hospital day 10 before he developed altered mental status. Given presentation of altered mental status, neuromuscular hyperactivity, and tachycardia in the setting of multiple serotonergic agents, including duloxetine, ondansetron, and recently increased cyclobenzaprine, serotonin syndrome was of utmost concern. We advised the primary team to discontinue all serotonergic agents immediately. Mr. S's symptoms started to improve the next day and fully resolved 3 days later. Discussion: Serotonin syndrome is an important clinical entity that requires prompt recognition and intervention. In this case, onset of serotonin syndrome was attributed to the likely increased dose of cyclobenzaprine in the setting of also being on duloxetine and ondansetron. There have been other case reports of serotonin syndrome secondary to cyclobenzaprine in the literature.<sup>2,3,4</sup> It is critical to

look beyond psychiatric medications when considering serotonin syndrome.

#### **No. 43**

### **Abnormal Involuntary Movement Scale (AIMS) Screening for Patients on Antipsychotics: Are We Doing Enough?**

*Poster Presenter: Govind Raghavan, M.D., M.B.A.*

*Co-Authors: Joshua Cohen, M.D., Ph.D., John Chamberlain, M.D.*

#### **SUMMARY:**

Background: The Abnormal Involuntary Movement Scale (AIMS) is a measurement tool used to detect and track tardive dyskinesia (TD), most commonly in patients prescribed antipsychotics.<sup>1,2</sup> With the advent of atypical antipsychotics, the rates of TD have generally declined, as has vigilance regarding regular monitoring.<sup>3,4</sup> However, the American Psychiatric Association recommends that all patients on antipsychotics be monitored for TD with a structured assessment yearly and more frequently for those at higher risk.<sup>5</sup> We sought to determine the frequency of AIMS testing at a large academic institution and to assess the rates of TD or TD-like symptoms in patients prescribed antipsychotics. Methods: A random sample of 100 patients prescribed antipsychotics, regardless of indication, between July and September of 2021 at a large academic institution was compiled. Data was obtained from chart review, including age, gender, diagnoses, number of past antipsychotic medication trials, AIMS testing, and mention of dyskinetic movements or a formal diagnosis of TD. Patients were then categorized into a TD group and a No TD group, and differences between groups were analyzed. Results: Of the 100 patients, 12 (12.0%) had history concerning for TD, and they had a range of diagnoses, including schizophrenia, major depressive disorder, bipolar disorder, and impulse control disorder. Concern for TD was noted while on a second generation antipsychotic in 8 of the 12 (66.7%). Only 6 (50.0%) of the TD group had ever had an AIMS assessment documented in their chart and only 1 (8.3%) had an AIMS documented within the last year. When compared with the No TD group, the TD group was older (average age of 64.5 years vs. 48.8,  $p=0.008$ ), was more likely to have 3 or more

trials of antipsychotic medications (58.3% vs 26.1%;  $p=0.022$ ), and was more likely to have ever had an AIMS documented (50.0% vs 9.1%;  $p=0.0001$ ). There was no significant difference in frequency of AIMS conducted in the last year (8.3% vs 5.7%). Conclusions: TD continues to be a significant concern with antipsychotics, despite increased use of atypical antipsychotics, and appropriate monitoring is lacking. Clinicians must be vigilant about conducting regular AIMS testing to ensure appropriate detection and monitoring of TD. Future work will seek to identify barriers to regular AIMS testing and determine how to increase frequency of monitoring by clinicians.

#### **No. 44**

### **Walking on a Maladaptive Daydream: Predictors and Correlates of Ethereal Paracosms**

*Poster Presenter: Lauren D. Moment, M.P.A., B.S.*

#### **SUMMARY:**

Maladaptive daydreaming (MD) is an under-researched psychological condition affecting people in all countries and ages. Researchers describe the phenomenon as an escape into a paracosm, an inner fantasy world created by dreamers with elaborate plots, characters, and personalities that can become so immersive that the sufferer confuses fantasy with reality, spends hours, or even days, in a dissociative state, and neglects relationships, academics, and occupational tasks. These paracosms can be anxiety-reducing or dark depending on the patient's mood and circumstances. Although the characters and plots can benefit the patient's mood, hours spent daydreaming can be distressing. In addition, MD can be borne of events in one's real life that have been stressful or traumatic. The researchers studied MD as a predicate of adverse life experiences (ACEs) in childhood and adulthood. ACEs can include abuse, neglect, an incarcerated parent, or other incidents. Negative experiences in adulthood are anxiety and depression. Personality traits such as extraversion, agreeableness, openness, conscientiousness, and neuroticism were also measured. The researchers utilized the Maladaptive Daydreaming Scale (MDS-16); The Brief Coping Orientation For Problem Experiences (COPE); The Patient Health Questionnaire-4 (PHQ-4); Adverse Childhood

Experiences (ACES); and the Big Five Index (BFI). I posted the surveys on Facebook, Reddit, Twitter, and fellow students in classes at the University of Colorado - Denver. After 286 responses were received, these data were analyzed via regression and correlation analyses in the Statistical Program for the Social Sciences (SPSS). There is a strong, positive relationship between adverse childhood experiences, depression, anxiety, neuroticism, and maladaptive daydreaming. To ascertain themes of daydreams, the researcher interviewed four self-identified maladaptive daydreamers. Themes included a grandiose sense of self, retribution towards real-life antagonists, and aspirations for one's future and current environment. Future goals will focus on sleep and mindfulness.

#### **No. 45**

##### **Pain and Prejudice**

*Poster Presenter: Candice Passerella, M.D.*

*Co-Authors: Abid Haque, M.D., Kovosh Dastan, M.D., Nathaniel Patel, M.D., Miriam Michael, M.D.*

##### **SUMMARY:**

**Background:** The historic disenfranchisement, exploitation, and traumatization of Black patients in the American healthcare system has caused psychological barriers to persist in not only the trust of Black patients toward physicians, but also in the preservation of healthcare disparities via implicit bias and stereotypes maintained by a predominantly White demographic in the physician workforce. These factors have contributed to many of the healthcare disparities that are still present today in many fields in medicine, to include mental health. The objectives of our study were to assess whether U.S. medical students and resident physicians (trainees) at Historically Black Colleges and Universities (HBCUs) displayed any racial bias in the assessment of pain or treatment recommendations; if they held any false beliefs about biological differences between Blacks and Whites; if any existing biases and/or beliefs were the same as those found in their counterparts at a predominantly white institution (PWI); and if there was comparable accuracy in their treatment recommendations for pain in Black vs White patients as a result of their beliefs and/or biases. **Methods:** This was a

descriptive cross-sectional study. An online survey, which was modeled after the same survey given to trainees at the University of Virginia, a PWI, was distributed to trainees at Howard University College of Medicine and Howard University Hospital; 96 people responded. Each trainee was asked to read 2 mock medical cases about a Black patient and a White patient, asked to estimate each patient's pain in each of 2 scenarios which are generally known by medical trainees to be significantly painful in nature, and then asked for their treatment recommendations. They were then given a 15-question survey to assess any beliefs held about biological differences between Blacks and Whites, which was also given to trainees at UVA. The responses were compared to those of the original study of interest. **Results:** When compared to the landmark 2016 UVA study, significantly less HBCU-affiliated (predominantly BIPOC) students and residents held false beliefs about biological differences between Blacks and Whites; any false beliefs held did not impact the treatment of the sample patients; and their assessment of pain was not impacted by the patient's race. Interestingly, the White respondents at Howard also did not exhibit any racial bias in pain assessment or treatment recommendations, indicating that perhaps active teaching and implicit bias training by HBCUs counteracts racial bias in these individuals as well. **Conclusion:** These findings support the need for pipeline programs to improve exposure, recruitment, development, promotion, and retention of Black students in medicine, as well as continued support and promotion of HBCU medical schools, in order to promote better equity and trust in the medical management of racial minorities' pain, mental health, and other disparate health outcomes.

#### **No. 46**

##### **Not a Moot Point: A Case Study on Adolescent Selective Mutism and Barriers to Care**

*Poster Presenter: Gualberto Munoz, M.S.*

*Co-Author: Nathan Bradford, M.D.*

##### **SUMMARY:**

TL is a 16 year old African-American male with a past medical history of selective mutism and obesity who

presents to the pediatrician with concerns of “passing out.” His speech during the office visit is limited to one-syllable answers or no answer at all. His mother and his teacher provide the history. He is having spells characterized by in which he lays his head on his desk and his body goes limp. When he is asked to wake up, he appears to be in a deep sleep. This has led to two emergency department visits where his physical examination and diagnostics were unremarkable, including ECG, UDS, and chest X-ray. These symptoms appear during times of stress or loud noises, began at the start of the current school year, and have occurred 17 times since the start of the current school year. He lives in Anderson, SC, which is a rural medically underserved area. He was referred to Anderson-Oconee-Pickens Children’s Mental Health Center where the medical director is a general pediatrician. The physician stated the patient “refused” to participate in the screening visit so she has nothing to offer him due to his “passive defiance.” The patient shows signs concerning for catatonia, including hypokinetic movements, stupor, posturing, staring, and mutism. Catatonia is a diagnosis secondary to another major psychiatric and/or medical disorder; this requires careful evaluation to find the underlying cause. TL is the epitome of how social determinants of health affect health outcomes. He is one of six children in a low socioeconomic home in an undesirable neighborhood. He lives in a medically underserved area with no access to a child and adolescent psychiatrist. Though it may seem daunting, every effort must be made to further assess patients’ social determinants of mental health, guide families to the appropriate resources, and receive proper diagnoses to give them the most effective care.

#### **No. 47**

##### **Addressing Geographic Disparities in Mental Health Research Participation: A Process Improvement Project**

*Poster Presenter: Lorie Shora, D.N.P.*

*Co-Authors: Carlos A. Zarate, M.D., Lawrence Park, M.D., Mani Yavi*

#### **SUMMARY:**

**Background:** Large geographic health disparities have been well-documented within many countries,

including the United States. Approximately 60 million Americans, about 20% of the total U.S. population, live in rural areas. Rural residents of the U.S. may be less likely to participate in health research due to multiple barriers. This descriptive analysis evaluated the urbanity and rurality of research participants with the Experimental Therapeutics and Pathophysiology Branch (ETPB) at the National Institute of Mental Health (NIMH) in Bethesda, Maryland over a 5-year period. Roundtrip transportation for each research participant to the NIMH was provided by the ETPB. **Methods:** Patient zip codes were converted to Rural Urban Commuting Area (RUCA) codes (1-3 urban, 4-10 rural). These results were compared with U.S. population data. **Results:** This analysis included 184 research participants. ETPB research participants had an urban residence rate of 92.3 % and a rural residence rate of 7%. The U.S. urban residence rate is 80% and the rural rate of 20%.

#### **No. 48**

##### **The Impact of the COVID-19 Pandemic on Gender-Affirming Care for Transgender, Gender Non-Binary, and Gender Non-Conforming Individuals**

*Poster Presenter: Philip Wong, M.D.*

*Co-Authors: Manuel Ramos, Ana Claudia Zacarkim Pinheiro dos Santos, M.D., Andrea Guerrero, M.D., Shin Lee, M.D.*

#### **SUMMARY:**

**Background** While the COVID-19 pandemic has contributed to severe disruptions worldwide, the LGBTQ+ populations are among those who have been disproportionately impacted by COVID-19, especially those individuals who identify as transgender, gender non-binary, or gender non-conforming. In this review, we sought to better understand the current literature regarding the impact of the COVID-19 pandemic on gender-affirming care for transgender, gender non-binary, and gender non-conforming individuals. **Methods** A PubMed literature review was performed searching for covid, pandemic, gender affirming, and gender-affirming (and other related terms) as keywords on available titles and abstracts. We summarize the literature relating to the impact of the COVID-19 pandemic on gender-affirming care. **Results** Six

results are studies involving data collection, while five results did not involve data collection. Of those which involved data collection, all of them focus on the impact of COVID-19 on populations using empirical data and represent data collected either on a multi-national/global basis or on a national level (reflecting the United States, Germany, and Italy). Study designs range from quantitative analysis of cross-sectional surveys to that of a longitudinal cohort. Two of the six studies establish associations between reduction in access to gender-affirming care and overall poor mental health. One of the studies found that individuals with either minoritized sexual or gender identities have overall lower levels of well-being. Another study found that individuals identifying as transgender reported being disproportionately affected by chronic diseases and by risk factors associated with higher mental distress, more so than the general population. One study in particular, though noted that reduced LGBTQ/TGNB support was associated with increased psychological distress during the pandemic, specifically interruption and/or delay in gender-affirming care was not associated with increased psychological distress during the pandemic. And finally, the last study establishes an association between access to gender-affirming care, specifically endocrinological consultations for hormonal prescription via telemedicine services, and less negative impact of the pandemic. **Conclusions** With regard to mental healthcare for LGBTQ+ populations, and especially for individuals who identify as transgender, gender non-binary, or gender non-conforming, a significant treatment gap exists not only in the United States but worldwide. The COVID-19 pandemic has exacerbated mental health disparities for an already vulnerable population, as reflected by the findings of the current literature. Findings are also suggestive that COVID-19 has negatively impacted the accessibility of gender-affirming care for transgender, gender non-binary, and gender non-conforming individuals and that the reduction in accessibility is associated with overall poor mental health.

#### **No. 49**

#### **Racial and Gender Disparities in Antipsychotic Prescribing**

*Poster Presenter: Mahmood A. Usman, M.D.*

*Co-Authors: Kris Noam, Ph.D., Hossam Mahmoud, M.D., M.P.H.*

#### **SUMMARY:**

Previous studies have shown that Black and Hispanic Americans are less likely to be prescribed clozapine, risperidone or olanzapine and more likely to receive long-acting injectable antipsychotics. No previous studies appear to have looked at prescribing patterns by sex. This study examines potential racial and gender disparities in antipsychotic prescribing in a Medicaid population in 2020. The study sample was derived from members of Beacon Health Options, a behavioral health managed care organization, serving members with Medical Assistance in 13 counties of Western Pennsylvania. De-identified data was obtained for 12,557 antipsychotics prescribed in 2020 for 8171 unique members who had diagnoses of Bipolar Disorder, Schizoaffective Disorder, Schizophrenia or Unspecified Psychosis. Individuals that had conflicting diagnoses that could not be resolved and those that lacked age or racial identifiers were excluded, resulting in sample size of 10,934 records for 7974 unique individuals. The medications prescribed were analyzed by name and category (oral typical, oral atypical, long-acting injectable (LAI) typical and LAI atypical) and if the medication was only available as a branded product. These variables were compared to age, sex, race/ethnicity and county of residence. This study shows that most of the antipsychotic medications prescribed were atypical. Prescriptions for typical antipsychotics, long-acting injectables and antipsychotics available as generics are more likely to be for men than for women and for people of color than White individuals. Men and Black individuals were more likely to receive long-acting injectable typical agents, but the number of these medications used was quite small. Similar racial disparities were reported in the past, when there were far fewer atypical agents available, but prescribing disparities by sex do not appear to have been reported previously. A racial disparity in clozapine prescribing, reported in a previous study, was not seen in this data set.

**No. 50****Barriers to the Diagnosis and Treatment of Schizophrenia in the Deaf Community and Their Unique Social Determinants of Health**

*Poster Presenter: Isabel Stillman, M.D.*

*Co-Authors: Jessica Kovach, Fan Zhang*

**SUMMARY:**

Ms. D is a 27-year-old female with a history of schizophrenia, congenital hearing loss & PCOS who was admitted to our inpatient psychiatric unit on a 302 petitioned by police for suicide attempt by cutting her left forearm (numerous thin superficial fresh cuts present). Throughout her hospitalization, Ms. D presented a complex diagnostic picture presenting psychotic features, borderline traits & depressive symptoms. Recognizing and assessing psychosis was especially difficult given all communication was conducted via video remote ASL interpreters. Ms. D was ultimately started on an antipsychotic as psychosis appeared to be the predominant feature. This was supported by collateral and her past psychiatric history. An antidepressant was later started for concern that there may be a depressive mood component. Throughout her hospitalization Ms. D appeared to respond very well to treatment. As her treatment team had no ASL experience, thought disorganization remained a challenge to assess but the interpreter reported by discharge this had improved. In this poster, we discuss how schizophrenia presents in a Deaf individual, the challenges of diagnosing and treating schizophrenia in a Deaf individual, and the unique social determinants of health (SDOH) challenges this community faces. Schizophrenia presents similarly in the Deaf and Hearing population with slight variations due to differences in communication and sensory modalities used to perceive the world. Providers' lack of familiarity with ASL and high rates of language dysfluency in the Deaf population pose significant barriers to accurately recognizing psychosis in Deaf individuals. There are also health disparities among the Deaf versus Hearing population. Hearing loss has been found to negatively affect SDOH including: educational attainment, income, and employment levels. The Deaf population also has unique SDOH as compared to the hearing population.

**No. 51****Do Race and Ethnicity Contribute to the Incidence of Restraint and Seclusion on an Inpatient Psychiatric Unit at a New York City Private Hospital?**

*Poster Presenter: Rachael Holbreich, M.D.*

*Co-Authors: Carisa Kymissis, M.D., Lisa Cohen, Ph.D., Calvin Sung, M.D.*

**SUMMARY:**

**Background:** Previous literature suggests that members of some racial and ethnic minorities, particularly Black and Hispanic individuals, can be perceived as more hostile, aggressive, and dangerous than White individuals, thus as patients may be more likely to experience restraint and seclusion (R & S), as a potential reflection of clinician bias (2). The available literature on racial and ethnic differences in the use of R & S on inpatient psychiatric units is limited. However, this has been more robustly studied among patients evaluated in Emergency Departments (ED), with findings that Black adult and child patients are more likely to be physically restrained in the ED (1,3,4). The aim of this study was to evaluate if physical R & S had been used with different frequencies in patients of different racial and ethnic groups in an inpatient psychiatric facility. **Methods:** The method used was a retrospective review of 414 patients, aged 18 to 70 years old, admitted to an inpatient psychiatric unit at Mount Sinai Beth Israel, a private metropolitan hospital in New York City, from September 2020 through March 2021. We hypothesized that race and ethnicity contribute to the incidence of restraint and seclusion after accounting for other clinical and demographic factors. Demographic factors assessed included age, sex, height, weight, housing status; clinical factors included violence history, means of arrival to hospital, Broset scores, from Broset Violence Checklist, in the ED and on the inpatient unit, use of restraint in the emergency room, length of stay, discharge diagnosis, secondary substance diagnosis, medication adherence, and PRNs received in the ED and on the inpatient unit. **Results:** In bivariate analyses, only clinical factors (means of arrival, PRNs in the ED and on the inpatient unit, absence of secondary substance diagnosis, Broset



score on the inpatient unit, number of days patients received PRNs, and poor medication adherence) predicted the use of R & S on the inpatient psychiatric unit. In a multivariable logistic regression, including predictors listed above plus race and ethnicity, only PRNs on the inpatient psychiatric unit and highest Broset score predicted the use of R & S. Race and ethnicity were not predictive of the use of R & S. Discussion: These findings suggest that race and ethnicity did not significantly contribute to the incidence of R & S for the population studied. As prior history of violence was not determined to have a significant association with use of restraint and seclusion, associated factors of R & S should be further explored to better assess risk of violence on the inpatient unit to promote early intervention and reduce rates of restraint and seclusion. In addition, the use of a formal measure of behavioral risk, such as the Broset Violence Checklist, may help systematize assessment for the need for R & S and reduce influence of potential clinician bias.

#### **No. 52**

##### **“Beauty, Bodies, and Brains”: Using a Graphic Novel as an Intervention for Those Struggling With Body Dysmorphic Disorders (a Workshop Outline)**

*Poster Presenter: Nealie Tan Ngo*

*Co-Author: Michelle Boose, M.D., M.P.H.*

#### **SUMMARY:**

Poor body image is a worldwide public health crisis that disproportionately affects women. Physical bodies are social bodies; beauty is linked to perceptions of health, wealth, power, and overall success, which affect women’s overall views of their capabilities, strengths, and worth. *The Body Issue: What Global and Historical Perspectives of the Ideal Female Body Can Teach Us About Our Own Present-Day Bodies* is a graphic novel that discusses the dynamics of these factors and how they affect, and to a certain amount, dictate the importance of feminine beauty. Using historical and contemporary sources, as well as personal experience, this graphic novel explores the cultural and social factors influencing female body image and how these in turn affect women’s mental and physical health. *The Body Issue* is an example of Graphic Medicine, a field which merges comics, graphic novels, and art with

medicine and public health. The graphic novel aims to be an educational and entertaining tool for not only teaching history and medicine, but also aims to be a tool to help reframe the way we talk about our bodies that prioritizes personal goals and capabilities and de-emphasizes the adherence to societal norms for the sake of beauty. In this way, the graphic novel hopes to serve as a resource for those struggling with body image, anorexia, bulimia, and other body dysmorphic disorders. “Beauty, Bodies, and Brains” is an interactive workshop which centers on using the *The Body Image* as an educational and reflective tool to discuss body image narratives, historical body image trends and contexts, and the rise of body dysmorphic disorders. Its primary audience is female adolescents (aged 10-19), with a secondary audience being mothers of female adolescents. The workshop aims to evaluate the potential of using a graphic novel as a resource for those struggling with body image and body dysmorphic disorders. The poster will summarize the content of the graphic novel, present the workshop outline, learning objectives, and proposed skills the audience will gain from the workshop, as well as discuss preliminary results and future directions of the graphic novel to be used as an educational and therapeutic tool in clinical and non-clinical settings.

#### **No. 53**

##### **Where Graphic Medicine Meets Psychiatry: The Art of Using Comics and Graphic Novels to Explore Mental Health and Illness**

*Poster Presenter: Nealie Tan Ngo*

*Co-Author: Eunice Yuen, M.D., Ph.D.*

#### **SUMMARY:**

Graphic Medicine is a field which uses various forms of visual storytelling (such as comics and graphic novels) to share health-related experiences and information. Though it has started to become increasingly popular over the last few years, the use of comics in medicine and public health date back to the 1950s, where they have been used as forms of education, communication, and even therapy in mental health, HIV/AIDs, cancer, and hospice care. The ability of comics to convey a complex series of experiences and/or information in an attractive and approachable way to audiences has helped

contribute to its rising popularity in healthcare. Therefore, comics and graphic novels have the potential to appeal to a diverse audience and reach those who would not otherwise respond to standard forms of communication and education in medicine and public health, such as pamphlets, brochures, and/or direct patient counseling. Yale Compassionate Home, Action Together (CHATogether) is a group focused on improving the mental health of AAPI teenagers, young adults, and parents through the arts. As part of the educational arm of its organization, CHATogether uses comics and graphic novels as culturally sensitive approaches to promote healthy child-parent communication and emotional wellness, as well as teach effective coping tools for public education. To date, a series of short comics and a longer graphic novel have been created to discuss topics such as depression, anxiety, suicide, intergenerational trauma, ACEs, navigating parental expectations, and the process of mentalization. In preliminary qualitative feedback, audiences report that the comics help to elucidate AAPI-specific experiences in mental health as well as help to destigmatize these issues. Audiences also report that they are helpful in teaching communication strategies for navigating difficult conversations, especially within families. The potential of this medium to attract audiences is high—for example, “Mentalization”, a comic which discusses the topic of depression between a Chinese mother and Chinese-American daughter and teaches the communication strategy of mentalization, has reached 18,330 people and garnered 533 likes, comments, and shares on Facebook alone—the highest of any CHATogether social media post. The poster will give a brief overview of Graphic Medicine and its uses in mental health, showcase excerpts of certain CHATogether comics and part of the graphic novel, as well as discuss preliminary results and future directions of Graphic Medicine to be used as an educational and potentially therapeutic tool in clinical and non-clinical settings for AAPI youth, young adults, and families.

#### No. 54

#### **First Do No Harm: Optimizing Medication Use in a Psychiatric Emergency Room to Minimize Morbidity.**

*Poster Presenter: Jaskanwar S. Batra, M.D.*

*Co-Authors: Samuel Reinfeld, D.O., Scott Benjamin Falkowitz, D.O., Poonamdeep Gill, M.D.*

#### **SUMMARY:**

**Background:** Behavioral disturbances such as aggression, destructiveness, psychotic agitation, and dysphoria are common in the emergency room (ER) setting and especially frequent in the psychiatric ER. Different classes of agents such as conventional antipsychotics and benzodiazepines are often used alone or in combination to relieve these behaviors (1). The recommendations are to intervene with verbal de-escalation and environmental modification techniques as first line (2). However, in many cases medications can play an important role in reducing agitation. Haloperidol along with a benzodiazepine (e.g., lorazepam) is a popular choice. However, higher doses can expose patients to serious risk with little evidence to support the use of high doses (3). We aim to optimize the use of these medications while minimizing risk from use of antipsychotics, benzodiazepines, or even barbiturates. **Methods:** To improve our practice of intramuscular medication (IM) use and patient safety, we completed a literature search to understand the best practice guidelines for agitation in the psychiatric emergency room. We created a PRN medication use algorithm for management of agitation for our psychiatric ER. The components of our initiative include carefully choosing the medication specific to the patient’s presentation while acknowledging: 1) Determining any underlying causes of violent behavior; 2) Assessment of the patient to determine the necessity of oral or intramuscular medication; 3) Documentation of clinical symptoms and need for medications in a ‘PRN medication note’; 4) Consistent education of staff including nursing staff on best practices in the management of agitation; 5) Quarterly refresher meeting for IM medication use with attending physicians and lastly 6) weekly monitoring of medications and doses used to treat agitation. **Results:** During the period from April 2020 to June 2021, there was a significant reduction in the use of Haloperidol 10 mg IM administration from an average of 19.75 times per month at the beginning of the project to an average of 7 times at the end of the project. This reflects a 64% reduction in prescription of high doses of Haloperidol. Similarly, for prescription of lorazepam 4 mg IM, we saw a

reduction from 6.5 times on average to 2.5 times a month, a 63% reduction. Amobarbital was strictly prohibited. No prescriptions for Amobarbital were sent to pharmacy after April 2020. The goal was to optimize dosage use rather than prohibiting the use of high dose antipsychotic medications or benzodiazepines while maintaining patient and staff safety. **Conclusions:** The use of safe and effective pharmacological interventions is one of several important steps in managing agitation and maintaining staff and patient safety in the psychiatric ER. Through the development of a structured initiative, we were able to significantly reduce the prescribing of medications which can impart significant morbidity on our patients.

#### **No. 55**

##### **Effect of Mental Health Nurse Implementation on Workplace Violence at Regional Medical Center Emergency Department**

*Poster Presenter: Yassmin Atefi, D.O., M.S.*

#### **SUMMARY:**

**Background:** Workplace violence (WPV) is increasing across Emergency Departments (EDs) in the United States. Healthcare workers are among those at highest risk for WPV and EDs are a high-risk area for WPV from patients and visitors. WPV includes physical and verbal violence as well as intimidation, which can lead to mental and physical distress, affecting a staff member's ability to feel safe in their work environment and ultimately affecting patient care. Previous studies and quality improvement projects have been done to look at WPV and understand if certain tools are helpful in minimizing it and improving WPV reporting systems. This study aims to explore whether the introduction of a mental health nurse (MHN) into a community-based hospital ED reduces WPV. **Methods:** MHNs were implemented in the ED during specific shifts seven days a week beginning in January 2020. Data was requested from the hospital's Risk Safety team on WPV incident reports from the ED. These reports were manually reviewed to determine whether physical or verbal abuse toward a healthcare worker was documented, and whether a MHN was present at the time of the incident based on the regular MHN shift hours. **Results:** Since the implementation

of the MHNs in the ED in January 2020, a total of 9 patient related Patient Safety Incident Reports were filed. Of the 9 patient reports, 3 involved only verbal or gestural threats while 6 involved physical aggression. MHNs were on shift in the ED for 6 out of the 9 reports. These 9 reports occurred over a 20-month period. In contrast, in the 10 months prior to MHN implementation, there was only 1 patient related WPV incident report from the ED .

**Conclusion:** Having MHN support in the ED was not associated with decreased WPV. This is contrary to what was expected. This finding may be due to several factors. There may have been increased reporting of WPV by the MHNs themselves. The addition of the MHN in the ED may have also led to heightened awareness of WPV and, thus, more reporting by other healthcare workers in the ED. A WPV committee was also formed at the hospital around the time of MHN implementation, which could have led to increased awareness and reporting of incidents. An important limitation of the present study is that there could have been unreported WPV incidents, or incidents reported through other systems, such as to hospital security, that were not included. Although we found no evidence of decrease WPV with the introduction of MHN nurses in the ED, further investigation is warranted utilizing more consistent and comprehensive measures of WPV.

#### **No. 56**

##### **Efficacy of ED Screening Tests for Children Admitted to an Inpatient Psychiatric Unit for Acute Mental Health Emergencies**

*Poster Presenter: William Bonadio*

#### **SUMMARY:**

**Abstract Objective:** To determine the efficacy and cost of performing a standard battery of ED screening tests used to identify an occult medical issue prior to psychiatric inpatient admission of children with acute mental health emergencies. **Methods:** We reviewed consecutive pediatric ED cases of children with acute mental health emergencies requiring inpatient admission to a psychiatric unit during a 4-year period. A standing protocol endorsed that all patients receive performance of a medical history and physical

examination; if negative for an otherwise acute medical issue, and psychiatric evaluation deemed inpatient care was indicated, a standard battery of [up to] 9 pre-admission screening medical tests was performed, including: complete blood count [CBC], basic metabolic panel [BMP], thyroid stimulating hormone [TSH], rapid plasma reagent [RPR], hepatic function panel; urinalysis [U/A], urine qualitative toxicology panel [U-tox], urine pregnancy test [UPT for menstruating females]; and 12-lead EKG. Results: total of 552 consecutive cases with an acute psychiatric condition were evaluated in the pediatric ED. Three patients were admitted to the medicine unit [all were toxic intentional ingestions identified by history]; the other 549 consecutive cases were admitted to the inpatient psychiatric ward, comprising the study group. There were 4,009 screening medical tests performed, with only 2.6% classified as abnormal, and 0.3% prompting a change in management [further lab testing]; no abnormality was associated with in-hospital subspecialist consultation or change in disposition. The total cost for performing these tests was \$589,028; the calculated average cost per patient was \$1,073. Conclusion: Performing routine medical screening tests for all children with acute psychiatric emergencies requiring admission to an inpatient psychiatric unit is not effective in identifying occult medical conditions requiring management intervention or disposition alteration; and results in significant health care cost expenditure.

#### **No. 57**

##### **Depression in People Living With HIV: Implication of Apathy as a Limiting Factor in the Deterioration of Attentional Networks**

*Poster Presenter: Martín Javier Mazzoglio Y. Nabar, M.D.*

*Co-Authors: Emmanuel Leidi Terren, Elba Beatriz Tornese, Monica Iturry*

#### **SUMMARY:**

Introduction: Depressive symptoms have a high prevalence and importance in chronic diseases and can be a limitation and complication due to their negative impact. People living with HIV (PLHIV) present clinical specificities in their depression with significant apathy and resistance to treatment,

which generates underdiagnosis, inconclusive treatment, greater suicidality and association with neurocognitive alterations. Objective: To determine the prevalence of depressive disorder and apathy in PLHIV, describe its impact on care and functional neuroimaging, specifying the differential parameters applied to clinical care. Material and method: We studied 92 PLHIV, negative viral load, male sex, diagnosed with depressive disorder (F32.9, DSM IV) and apathy according to neuropsychiatric evaluations (MINI, Hamilton Depression Rating Scale, Apathy Evaluation Scale clinical version and Neuropsychiatric Inventory), ages between 26 and 53 years, without neurocognitive deterioration or coinfections, with highly active antiretroviral therapy and without psychopharmacological treatment (antidepressant, antipsychotic or antiepileptic). They were evaluated with neurocognitive tests (Stroop test, Trail Making Test A and B, Digito symbol, d2 test) and Single Photon Emission Tomography was used. Statistical parameters were applied and ethical-legal norms were complied with. Results: We found a high prevalence of apathy that significantly altered alternating and divided attention compared to focused and sustained attention. We determined hypoperfusion in the cortices of the left anterior cingulate, left anterior insular, and asymmetrically in the caudate. Hypoperfusion of the left anterior cingulate was correlated with the left anterior insula and caudate ( $r_2 = 0.86, 0.88$ ) and proportional to severity in the apathy test ( $r_2 = 0.84$ ). Conclusions: Apathy in patients living with HIV with depression presents specific and differential neurocognitive alterations in the attentional domain in people living with HIV. In this population, apathy is a limitation for drug treatment and psychopathological evolution. Neurofunctional alterations were found in the striatum and the insula, correlating with the involvement of the cingulate cortex. Keywords: HIV. Depression. Apathy. Attention. Functional neuroimaging.

#### **No. 58**

##### **Behavioral Variant of Frontotemporal Dementia and Social Cognition: Evaluative Utility for the Health and Forensic Field**

*Poster Presenter: Martín Javier Mazzoglio Y. Nabar, M.D.*

*Co-Authors: Daniel Silva, Emmanuel Leidi Terren*

**SUMMARY:**

Introduction: The behavioral variant of frontotemporal dementia presents clinical specificities and difficulties for its early diagnosis in initial stages due to the overlap of symptoms with other psychiatric pathologies. The delay in diagnosis places the subject in a state of vulnerability because the treatment will not be adequate and the alteration in the psycho-functional capacity can expose him to risks. Objective: The objective of this research was to describe the importance at the forensic and health level of the neuropsychological evaluation of social cognition in people with behavioral variant frontotemporal dementia and to correlate the results with the clinical manifestations of the patients. Materials and Methods: 45 patients with behavioral variant frontotemporal dementia were studied with social cognition tests (Reading the Mind in the Eyes and Faux Pas Tests) and staged with standardized scales (CDR (Clinical Dementia Rating), GDS (Global Deterioration Scale) and the FTD). - FRS (Frontotemporal Dementia Rating Scale). The results were analyzed with descriptive and inferential statistical tests and the current ethical-legal requirements were met (requirement of informed consent, reservation of the identity of the participants, compliance with the GCP-Good clinical practice-, ANMAT provision 6677/10 and adherence . to the Ethical Principles derived from the Declaration of Helsinki). Results: We found a significant prevalence of alterations in social cognition tests, mainly in Faux Pas Test, from the initial stages of the disease, which were correlated with the clinical stage of the patient. Conclusions: The behavioral variant of frontotemporal dementia is a condition with significant diagnostic complexity in its initial stages that affects decision-making, the type of treatment to be instituted and presents the consequences for the subject and their environment. Early detection with a deep assessment of social tools will provide clinical tools for pharmacological treatment, as well as to know the capacity and safeguard the rights of the subject and implement the necessary support measures. It was confirmed that the alterations in the social cognition tests were correlated with the clinical stage in the FTD-FRS scale and high implication in the results of the Faux Pas Test mainly, and secondarily in the Reading the Mind

in the Eyes Test. Key words: Behavioral variant frontotemporal dementia. Social cognition. Capacity.

**No. 59****Justice Delayed? Wait Times for Involuntary Psychiatric Treatment in Hospitalized Patients Before and After COVID-19: A 3-Year Retrospective Study**

*Poster Presenter: Reuben Heyman-Kantor, M.D.*

*Co-Authors: Madeleine Horvath, B.A., Richard Cockerill, M.D.*

**SUMMARY:**

**Background:** When patients are hospitalized for severe mental illness and refuse treatment, in many states a court process is required to determine whether patients may be administered psychiatric treatment involuntarily. Delays in court processes contribute to unnecessary suffering, prolonged length of stay, worsened clinical outcomes and wasted healthcare resources. While the laws governing mandatory psychiatric treatment vary by state, the average length of the adjudication process in these cases is currently unknown. This retrospective review quantified judicial wait times for involuntary psychiatric treatment in one major Chicago psychiatric hospital over a 3-year period—18 months before and after the beginning of the COVID-19 pandemic. **Methods:** Individual-level data was extracted from the medical record for all adult patients (age 18+) discharged from the psychiatric unit at a major psychiatric hospital in Chicago, IL, between 9/1/2018-10/1/2021 for whom authorized involuntary treatment (medication or ECT) was sought and for whom a court hearing was held. Patients were divided into cases that were adjudicated before and after the Circuit Court of Cook County suspended in-person mental health court hearings starting March 27, 2020 due to the COVID-19 emergency. **Results:** 54 patients meeting inclusion criteria (mean age 39.0 years, 59.3 % female, 40.7% reported Black, 50.0% reported white) were identified. The pre-covid (PRE-C) cohort and post-covid (POST-C) cohort were similar regarding number of cases, age, sex and diagnoses (PRE-C n=25, POST-C n =29). The mean wait time for adjudication for the overall cohort was 16.6 days. Mean wait time was significantly longer in the POST-

C cohort (PRE-C average wait =11.6 days vs POST-C average wait = 21.0 days,  $p<0.01$ ). **Conclusions:** In adult patients for whom court-ordered treatment was sought at a single psychiatric hospital in Chicago, IL, the mean wait time for court adjudication over a 3-year period was 16.6 days. The mean wait time increased by more than 9 days after the beginning of the COVID-19 pandemic. Future work will attempt to develop procedures that decrease judicial wait times and investigate whether wait times are associated with length of stay, emergency intramuscular medication administration rates, or time to readmission. Comparing wait times for authorized involuntary treatment between centers and states could inform public policy regarding the care of this vulnerable population, and which laws optimally balance patient rights, patient suffering and the distribution of scarce healthcare resources.

#### No. 60

##### **Investigating the Impact of the COVID-19 Pandemic on the Mental Health of Cisgender and Gender-Diverse Individuals**

*Poster Presenter: Devon Peterkin, B.A.*

*Co-Authors: Olivia Lawrence, B.A., Megan Rogers, Ph.D., Igor I. Galynker, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** There is growing concern over the psychological ramifications of the coronavirus (COVID-19) pandemic, particularly among vulnerable populations. Specifically, known pandemic-related disturbances including stress, loneliness, and hopelessness (Twenge & Joiner, 2020; Luchetti et al., 2020; Scroggs et al., 2020) may be exacerbated in gender-diverse (GD) individuals (i.e., non-cisgender), given that they are vulnerable to several psychosocial risks (Salerno et al., 2020; Kidd et al., 2021). Likewise, cisgender women may also have increased pandemic-related stress (Xiong et al., 2020), but research in this area is sparse. As such, the present study aims to investigate the impact of COVID-19 on several aspects of mental health among cisgender men (CM), cisgender women (CW), and GD adults. **Method:** An online questionnaire was administered to an American sample (N = 1965; CM: 213, CW: 1,722, GD: 30) during the COVID-19

pandemic. Participants responded to a series of questions that assessed the extent to which they experienced a variety of psychological symptoms (e.g. hopelessness and isolation) as a result of COVID-19. A one-way ANOVA and post-hoc comparisons using Tukey HSD were performed to examine mean differences between the three gender groups. **Results:** Our findings revealed significant differences among the three gender groups for feelings of safety ( $F[2,1962]=11.0$ ), loneliness and isolation ( $F[2, 1962]=14.7$ ), entrapment ( $F[2,1962]=16.5$ ), stress ( $F[2, 1962]=61.5$ ), and hopelessness ( $F[2,1962]=30.2$ ) due to COVID-19. Specifically, GD adults felt significantly less safe ( $M=2.63$ ,  $SD=1.1$ ) than cisgender women ( $M=3.14$ ,  $SD=.92$ ) and cisgender men ( $M=3.38$ ,  $SD=1.0$ ). Compared to cisgender men, GD adults and cisgender women felt significantly more alone and isolated (GD:  $M=3.83$ ,  $SD=1.17$ ; CW:  $M=3.59$ ,  $SD=1.11$ ; CM:  $M=3.16$ ,  $SD=1.16$ ), stressed (GD:  $M=4.33$ ,  $SD=1.03$ ; CW:  $M=4.19$ ,  $SD=.93$ ; CM:  $M=3.42$ ,  $SD=1.20$ ) and hopeless (GD:  $M=3.40$ ,  $SD=1.40$ ; CW:  $M=3.25$ ,  $SD=1.29$ ; CM:  $M=2.53$ ,  $SD=1.31$ ). Cisgender women also felt significantly more trapped ( $M=3.79$ ,  $SD=1.15$ ) than cisgender men ( $M=3.31$ ,  $SD=1.32$ ). There were no significant between-group differences for feelings of connectedness, nor between GD adults and cisgender women for feelings of loneliness, entrapment, stress, and hopelessness. **Discussion:** Overall, cisgender men experienced significantly fewer adverse COVID-19-related psychological symptoms compared to GD adults and cisgender women. This may be attributed to a potential increase in gender-role specific responsibilities and stressors during the pandemic, such as additional caregiving duties during work from home hours as well as a reduced sense of community and social support due to nationwide lockdowns (Power, 2020; Gratz et al., 2020). Our results highlight the need to adopt a gender lens when evaluating the impacts of the pandemic.

#### No. 61

##### **This Is Getting Old: The Challenges of Diagnosing and Treating Geriatric ADHD**

*Poster Presenter: Shirshendu Sinha, M.D.*

*Lead Author: Angie Buffington*

*Co-Author: Rajesh R. Tampi, M.D., M.S.*

**SUMMARY:**

Three studies have investigated the prevalence of Attention Deficit Hyperactive Disorder (ADHD) at older age, showing that ADHD can be identified in around 3% of the general Dutch and Swedish population above 60 years of age. Literature is scarce on the manifestation and accompanied problems of ADHD in older age. Not only in research, but also in clinical practice, there is little focus on ADHD in older adults. A U.S. survey shows that ADHD later in life is often not identified by memory clinics. Only one-fifth of the investigated memory clinics reported that they regularly screened for ADHD, although about 60% reported seeing older ADHD patients. In our proposed poster, we discuss the importance of recognizing, challenges to accurate diagnosis of, benefits to effectively treating, and complexities in prescribing for ADHD among patients over age 60. We present the case of an 83 year old Caucasian man who was initially referred for a neuropsychological evaluation after hospitalization for altered mental status and concern for neurodegeneration. Through careful interdisciplinary collaboration over time that included primary care, repeat neuropsychological evaluations, and psychiatric evaluation and treatment, he was ultimately diagnosed with ADHD. We discuss the challenges to identifying and treating lifelong symptoms of ADHD among geriatric patients. Specifically, when a patient is over age 60, recognizing symptoms of ADHD is complicated for multiple reasons: (1) Given a historical lack of awareness of ADHD when this cohort was school aged, it is not surprising that symptoms often remain unrecognized throughout their life. (2) Given common medical complexities common to aging, ADHD symptoms are frequently masked, misattributed, or dismissed. And (3) screening tools and standardized assessments for ADHD are often unhelpful given that they are normed on younger samples. This poster will review important steps to facilitate accurate diagnosis. Specifically, comprehensive clinical history to differentiate diagnostic points is vital, thorough review of medical records is indispensable, repeat evaluations are often advantageous, and open communication with other members of the patient's care team is imperative. Finally, we will discuss how effectively treating symptoms of ADHD in geriatric patients has

numerous important benefits, including improved mood, enhanced cognition, increased social engagement, and greater personal safety especially in the context of driving and medication management. Yet pharmacology cannot be initiated without first engaging in careful interdisciplinary conversations that address factors such as cardiac and renal health. Indeed, longitudinal specialty care done in conjunction with primary care allows for collaboration among providers that facilitates safe and effective treatment to enhance patient functionality.

**No. 62****Prediction of Long-Term Medication Outcome in Patients With Alzheimer's Diseases Base on EEG Brain Connectivity**

*Poster Presenter: Tak Youn*

*Co-Author: Hae-Jeong Park*

**SUMMARY:**

**Background:** Both acetylcholinesterase (AChE) inhibitor and non-competitive antagonist of N-methyl-D-aspartate (NMDA) receptor are approved for the clinical treatment of Alzheimer's disease (AD). However, it is difficult to predict of long-term treatment response of AD to medication treatment. We explored EEG brain connectivity as a potential biomarker for long-term medication outcomes in patients with AD. **Methods:** Resting-state EEG was recorded from a total of 56 AD patients (mean age=73.23±6.39) before medication. Starting dosage of AChE inhibitor, donepezil was 7.75±3.85mg and the mean treatment period is 104.05±57.93 weeks. The mean final medication dosage is donepezil 13.23±6.93mg and memantine 9.52±9.68mg. We divided the patients into two groups according to MMSE score change; mean MMSE change of good (n=32) and poor(n=24) respondent group is 0.34±3.42 and 6.03±3.57, respectively. We analyzed brain connectivity among the 246 cortical regions defined by the Brainnetome atlas(Fan et al.) using the fieldtrip toolbox by evaluating spectral coherence for five frequency bands (delta, theta, alpha, beta, and gamma). We then analyzed each connectivity between groups using ANCOVA with age, sex, and the initial MMSE scores as covariates. **Results:** Our study found the outcome-dependent

difference in interhemispheric brain connectivity between the left frontal and right anterior temporal regions in theta frequency bands and between the right frontal and left limbic regions in gamma frequency bands ( $p < 0.001$ ). This study suggests the potential of EEG connectivity as a biomarker to predict long-term medical treatment by AChE inhibitor and NMDA antagonist in AD. This research was supported by Brain Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Science and ICT (NRF-2017M3C7A1049051) and Eisai Korea.

#### **No. 63**

##### **Attitudes to Mental Health in Slovakia**

*Poster Presenter: Maria Kralova, M.D., Ph.D.*

*Co-Authors: Lubomira Izakova, M.D., Ph.D.,*

*Alexandra Brazinova, M.D., Ph.D.*

##### **SUMMARY:**

**Background:** In the European Union every seventh person experiences any form of mental disorder at least one time during the life. Despite the fact, that the prevalence of mental disorders is high, and the number of treated patients is rising, still remains a large number of those, who never find out any professional help. Actual concern exists, that in the context of current pandemic the number of new cases of mental disorders (especially the most prevalent affective, anxiety and cognitive disorders) will increase. **Methods:** During summer 2021 we realized epidemiological exploration of mental health perception in the sample of 1501 respondents from general population in Slovakia (combination of full managed access online panel and personal interrogation). For the detection of depressive and anxiety symptoms we used PHQ-9 and GAD-7 instruments). **Results:** About 20% of respondents indicated presence of anxiety symptoms and approximately one third of respondents indicated presence of depressive symptoms in the last two weeks (in both categories significantly more women, young people and people with lower level of education). These results are comparable with the findings of studies, using similar methodology, from other countries. Only 10% of subjects indicated they have been diagnosed with any mental disorder during their life – this number is too small in the

comaprison with the data from other countries – probably it hints the low awareness of Slovak population about mental health issues, about the symptoms of mental disorders and about the accessibility of mental health services. About 75% of respondents are convinced, that in our society is still present stigma and shame about mental disorders. **Conclusion:** The incidence of mental health problems, especially the most frequent (depressive and anxiety symptoms) has been increased all over the world - also in our country - during pandemic. In Slovakia many patients with the most common mental disorders are not being treated - three quarters of them do not seek a mental health expert, due to stigmatisation on the one hand, and due to the lack of information concerning mental health issues on the other hand. That is the main reason for establishment of Community Mental Health Centres (CMHC), as a novel part of psychiatric care in Slovakia, which will implement case management provided by a multidisciplinary team and combine psychiatric treatment with various forms of psychotherapy, psychosocial rehabilitation and social care to support recovery and restoration of functionality of the patients with mental disorders. Information given by this epidemiological exploration represents the base for accurate setting-up of individual steps of the reform of psychiatric care, which takes place in Slovakia.

#### **No. 64**

##### **Mental Health During COVID-19: The Role of Risk and Protective Factors**

*Poster Presenter: Carolina Cabaços*

*Co-Authors: Ana Telma Pereira, Ana Araújo, Antonio Macedo*

##### **SUMMARY:**

**Background:** The COVID-19 pandemic has had numerous adverse effects on individual psychological well-being across all population groups, regardless of age, sex or socio-economic conditions. Understanding the persistence of the pandemic's impacts on lifestyle and mental well-being is critical for informing public health policy. Recently, our group has developed the Adherence Scale to the Recommendations for Mental Health during the COVID-19 pandemic from the Portuguese



General Directorate of Health (ASR-MH-COVID19). Research on COVID-19 so far has identified some vulnerable groups for stress and other forms of psychological distress during the pandemic, being individuals with prior history of mental problems at higher risk. However, less is known about the role of factors that can be protective. **Aim:** To analyse the role of prosocial behaviour and prior history of a mental problem throughout life in adherence to mental health recommendations and psychological distress during COVID-19. **Method:** This retrospective observational study enrolled 1376 adults from the general population (mean age=33.55±14.74; 70.4% female) who answered to an online survey (413 between September and December 2020; 963 between February and May 2021) that included sociodemographic and clinical questions and the Portuguese validated versions of the ASR-MH-COVID19, Depression, Anxiety and Stress Scale (DASS) and the Toronto and Coimbra Prosocial Behaviour Questionnaire (ProBeQ; for empathy and altruism). Descriptive statistics, t-test for independent samples, Pearson correlations and linear/hierarchical regressions were performed using SPSS 27.0. **Results:** Adherence scores significantly correlated with ProBeQ's total and dimensional scores ( $r>0$ ), as well as with DASS and history of a mental problem throughout life (HMPTL;  $r<0$ ); the latter did not correlate with ProBeQ. Adherence and DASS, but not prosocial behaviour, differed between individuals with or without HMPTL ( $p<.05$ ). Empathy and altruism were both significant positive predictors of adherence to mental health measures ( $R^2=.249$ ,  $p<.001$ ); HMPTL, although also being a significant negative predictor, only explained 0.3% of adherence's variance ( $R^2=.003$ ,  $p<.05$ ). In a hierarchical model, prosocial behaviour performed a variance increment of 25.2% in adherence even after controlling for HMPTL ( $R^2$  change=.252;  $p<.001$ ). Finally, adherence was a negative predictor of DASS' total and dimensional scores (~3% of explained variance), presenting a significant  $R^2$  change ( $p<.05$ ) even after controlling for HMPTL. **Conclusions:** It is essential to acknowledge not only the risk and vulnerability factors for mental health issues during a public health crisis such as COVID-19 pandemic, but also protective traits and attitudes. Health care providers and public campaigns should focus their message on solidarity and altruistic motivations

when appealing to public's engagement in health behaviours.

#### No. 65

#### Smoking in Schizophrenia: Findings in a Treatment-Resistant Schizophrenia Specialized Unit

Poster Presenter: Carolina Cabaços

Co-Authors: David Mota, Sara Magano, Ana Carolina Macieira Pires, Miguel Bajouco

#### SUMMARY:

**Background:** Despite worldwide efforts to reduce cigarette consumption and a decreased societal prevalence, schizophrenia patients smoke frequently and heavily. Evidence on the link between smoking and schizophrenia suggests patients might consume cigarettes to alleviate some symptoms. Also, they have less severe extrapyramidal symptoms, but more severe positive symptoms. In addition, the relationship between smoking and antipsychotics is bidirectional: while smoking affects antipsychotic metabolism, antipsychotics affect nicotine-induced stimulation of reward processing. **Aim:** To analyse the relationship between tobacco consumption and clinical outcomes in a sample of treatment-resistant schizophrenia patients. **Method:** We included a cohort of 49 treatment-resistant schizophrenia patients (93.9% males; mean age=38.96±11.20) admitted in Advanced Care Unit for Treatment Resistant Schizophrenia in Coimbra (Portugal) between 2016-2020. Our intervention program includes a clozapine-titration protocol for 24 weeks. PANSS was used at baseline and week 24. Clozapine serum levels were monitored. **Results:** 69.8% patients were smokers, with a mean daily tobacco intake of 18.80 cigarettes. The subsample of smokers vs. non-smokers revealed lower mean clozapine:norclozapine ratios, took a significantly higher mean daily dose of clozapine at week 24 (472.92 mg vs 322.22 mg,  $Z=-2.06$ ,  $p=.039$ ) and required a higher minimum clozapine dose to achieve therapeutical serum levels/DMIN (considered above 300ng/ml) (407.61 mg vs 193.75 mg,  $Z=-3.89$ ,  $p<.001$ ). Being a smoker and the number of cigarettes showed significant correlations with clozapine:norclozapine ratios at baseline and week 24 ( $r\sim-.50$ ), clozapine mean daily dose at week 24 ( $r\sim.40$ ) and DMIN ( $r\sim.60$ ; all  $p<.01$ ). Being a

smoker and the number of cigarettes were significant predictors of clozapine doses at week 24 (20.8% and 23.8% of explained variance, respectively) and of DMIN (53.7% and 29.0%, respectively; all  $p < .01$ ). DMIN was a significant predictor of clozapine mean doses at week 24 and, put together in a regression model with the positive symptom subscale of PANSS measured at week 24, both explained 66% of its variance ( $p < .001$ ); this value increased to 83% when the regression model was performed only in the subsample of smokers. **Conclusions:** High doses of clozapine in smokers might result from greater positive symptoms or even altered CYP metabolism. In smokers, clozapine dose titration was highly predicted by positive symptoms at week 24 and clozapine serum levels, possibly because of higher and more prolonged positive symptom severity, a sustainably low clozapine:norclozapine ratio and a lower variability of other hypothetical influencing factors, such as negative symptoms or extrapyramidal effects. Based on our results and the existing literature, smoking cessation programmes should be systematically implemented in schizophrenia treatment units.

#### No. 66

##### WITHDRAWN

#### No. 67

##### Impact of Tardive Dyskinesia on Physical Aspects of Patient Lives: A Survey of Patients and Caregivers in the United States

Poster Presenter: Sam Leo

Co-Authors: Debbie Goldschmidt, Mo Zhou, Rajeev Ayyagari

##### SUMMARY:

**Background:** Tardive dyskinesia (TD) is a hyperkinetic movement disorder that substantially impacts patients' ability to function in their daily lives. This study assessed physical function difficulties experienced by patients with TD in the United States from the perspectives of patients and caregivers. **Methods:** A targeted literature review and interviews with patients, caregivers, and clinicians were conducted to develop 2 online English-language surveys (1 for patients with TD, 1 for caregivers providing unpaid care for a patient

with TD for  $\geq 3$  months). Participants rated the impact of TD on physical functioning over the previous 7 days from 1 (least impact) to 5 (most impact). Impact scores and proportions of patients and caregivers who reported impact were calculated and summarized descriptively. **Results:** Overall, 269 patients and 162 caregivers completed the surveys. Mean (SD) physical impact scores as reported by patients and caregivers were 3.1 (0.9) and 3.2 (0.7), respectively, and increased with 7-day TD symptom severity (3.7 [0.7] and 3.6 [0.5] for severe/very severe vs 2.6 [0.8] and 3.0 [0.6] for no/mild/moderate). Scores were greater for patients with underlying schizophrenia (3.3 [0.9]) or bipolar disorder (3.1 [0.9]) than with major depressive disorder (2.7 [1.0]) as reported by patients, but similar across underlying disease conditions as reported by caregivers (3.2 [0.7], 3.1 [0.6], 3.2 [0.6], respectively). Over 90% of patients reported moderate-to-severe impact on physical functioning, with over two-thirds reporting moderate-to-severe impact on 14 of the 24 items—(1) worry about choking (76.2%), (2) trouble chewing (69.9%), (3) trouble speaking clearly (68.4%), (4) felt self-conscious about speech difficulties (74.8%), (5) ability to fall asleep (86.3%), (6) ability to sleep through the night (81.0%), (7) ability to exercise (77.0%), (8) ability to do household chores (76.6%), (9) ability to hold things (ie, glass or fork; 76.3%), (10) needing to eat slowly to avoid choking (73.6%), (11) ability to work because of speech difficulties (including work at home; 73.3%), (12) caused pain (70.0%), (13) frustrated by speech difficulties (69.9%), and (14) ability to eat (67.2%). Among these items, the proportion of caregivers reporting moderate-to-severe impact on item 1 was lower, while the proportions for items 2–4 were about the same; proportions of caregivers for items 5–14 were 6.7%–16.1% greater. Proportions increased with 7-day TD symptom severity and were generally greatest for patients with underlying schizophrenia. **Conclusion:** TD imposes a substantial burden on patients' physical functioning, regardless of underlying condition. These results reinforce the need for healthcare providers to routinely assess the impact of TD symptoms on eating, speaking, sleeping, and other activities of daily living.

**No. 68****Impact of Tardive Dyskinesia on Psychological and Social Aspects of Patient Lives: A Survey of Patients and Caregivers in the United States**

*Poster Presenter: Sam Leo*

*Co-Authors: Sarah King, Mo Zhou, Stacy Finkbeiner, Rajeev Ayyagari*

**SUMMARY:**

**Background:** Tardive dyskinesia (TD) is a hyperkinetic movement disorder that substantially impacts patients' lives. This study assessed psychological and social aspects of TD from patient and caregiver perspectives to better understand the stigma caused by TD in the United States. **Methods:** A targeted literature review and interviews with patients, caregivers, and clinicians were conducted to develop 2 online English-language surveys (1 for patients with TD, 1 for caregivers providing unpaid care for a patient with TD =3 months). Participants rated the impact of TD on psychological and social domains over the previous 7 days from 1 (least impact) to 5 (most impact). Impact scores and proportions of patients and caregivers who reported impact were calculated and summarized descriptively. **Results:** Overall, 269 patients and 162 caregivers responded to the surveys. Mean (SD) psychological impact scores were 3.5 (1.0) and 3.5 (0.8) as reported by patients and caregivers, respectively, and 3.2 (1.1) and 2.9 (0.7) for social impact. Across 9 of the 11 psychological domain items, over half (51.3%–58.7%) of patients reported often/always feeling (1) low self-esteem, (2) afraid of being rejected, (3) unable to focus, (4) sad/unhappy, (5) anxious/worried, (6) embarrassed, (7) irritable/frustrated/angry, (8) unmotivated, and (9) tired/low energy; proportions were greater for caregivers for items 1–3 (items 4–9 were similar). Across 9 social domain items, 48.7%–55.8% of patients reported that TD often/always impacted their ability to (1) socialize with family/friends, (2) join social activities, (3) run errands, (4) take public transportation, (5) enjoy things they do for fun, and (6) appear on video; proportions were lower for caregivers for item 1, and higher for items 2–4 (items 5–9 were similar). For items regarding others' reactions, 40.9%–49.4% of patients reported that strangers (items 1–4) and acquaintances (items 1–7) often/always (1) stared/looked, (2) asked what was

wrong/why they were moving, (3) told them to stop moving, (4) made jokes at their expense, (5) grabbed/touched them to stop them from moving, (6) told them that others were looking, and (7) told them that they were different than they used to be because of TD; all proportions were lower for caregivers. Over half (51.6%–68.0%) of patients reported being bothered quite a bit/very much by reactions from their spouse/partner, potential spouse/partner or date, children, employer, classmates, or coworkers. Impact scores and proportions were greater for patients with underlying schizophrenia than for major depressive disorder, and increased with 7-day TD symptom severity. **Conclusion:** Patients and caregivers alike reported that TD had substantial impact on patients' psychological and social functioning, regardless of the underlying condition. Understanding the TD patient experience can help better understand the stigma associated with TD.

**No. 69****COVID-19 and Psychosis: A Systematic Review of Case Reports and Case Series**

*Poster Presenter: Nabiha Musavi, M.D.*

*Lead Author: Sadiq Naveed, M.D.*

*Co-Authors: Amna Mohyud Din Chaudhary, M.B.B.S., Sundas Saboor, Sonia Khan*

**SUMMARY:**

Studies in the past have demonstrated the effect of epidemics on public mental health. Preliminary data shows that patients with COVID-19 may experience psychiatric symptoms including psychosis. At the same time, fear of the illness, stigma and social isolation may additionally contribute to their psychopathological outcomes. This systematic review evaluated the association between COVID-19 and new-onset psychosis or exacerbation of clinically stable psychosis through case reports/series. Six databases were searched followed by manual search of full text articles. Thirty-five studies were identified using a predetermined eligibility criteria. We evaluated the characteristics of the patients through their clinical history, course of illness, management and prognosis. Quality assessment was conducted using The Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Case Reports. Thirty-five

studies (30 case reports and 5 case series) consisting of 44 unique cases were included. Among them, 63.6% were men and 33.7% were women. Eight patients had past history of psychiatric disorders with substance abuse being the most commonly reported disorder. Thirty-nine cases had an uncomplicated medical presentation and five patients had a complex course of illness. Fourteen cases had neurological symptoms including altered mental status, delirium, seizures and nystagmus. A wide range of psychiatric presentations were seen including suicidal ideation and mania-like symptoms. The most common psychotic presentation was delusions and hallucinations with fifty-one and thirty-two patients, respectively. Other clinical features included disorganized behaviors, catatonia, incoherent speech and insomnia. The patients were medically treated with antibiotics for COVID-19 pneumonia while psychotic symptoms were treated with but not limited to antipsychotics, benzodiazepines, valproic acid and electroconvulsive treatment. In twenty-nine cases, psychotic symptoms improved significantly or resolved completely. Ten cases had partial improvement with residual psychotic symptoms and one case died due to cardiac arrest. Our review explored the association of psychosis in COVID-19 patients. Our aim is to provide clinicians with valuable information regarding the symptomatology, course of illness as well as treatment regimen that has shown significant benefit for newly diagnosed psychosis or worsening of previously stable psychosis in the context of COVID-19. **Keywords:** COVID-19, SARS-CoV-2, Severe Acute Respiratory Syndrome Coronavirus 2, Coronavirus Disease 2019, Psychosis, Psychotic delusion, hallucination, paranoia, and schizophrenia.

#### **No. 70**

##### **The Effects of Repeated Intranasal Esketamine Treatment in Depression and Cognitive Function in Patients With Treatment-Resistant Depression**

*Poster Presenter: Shuang Li, M.D., Ph.D.*

*Co-Authors: Violeta Valdivia, Courtney Miller, Robert Meisner, Stephen J. Seiner, M.D.*

#### **SUMMARY:**

Background: Esketamine, recently approved by the FDA, has emerged as a rapid, robust antidepressant

in treatment-resistant depression (TRD). Very few studies have examined neurocognitive effects of intranasal esketamine treatments in patients with TRD in the naturalistic clinic setting. We conducted a retrospective chart review to investigate both antidepressant effects and neurocognitive effects of repeated intranasal esketamine treatments in patients with TRD. **Methods:** Fourteen patients with TRD were examined after they finished the induction phase of repeated intranasal esketamine treatments and completed the assessments of their depressive symptoms and cognitive function before the first and the last repeated ketamine treatments. **Results:** Repeated intranasal esketamine treatments significantly decreased depression symptoms measured by the 16-item Quick Inventory of Depressive Symptomatology-Self Report scale (QIDS-SR16) with a 36.90% reduction compared to the baseline. Meanwhile, repeated intranasal esketamine treatments did not impair the cognitive function measured by the Montreal Cognitive Assessment (MoCA) in those patients with TRD. **Conclusion:** In this naturalistic sample of patients with TRD in our clinical practice, repeated intranasal esketamine treatments significantly produced antidepressant effects without impairing cognitive functions.

#### **No. 71**

##### **Global Improvements and Psychiatric Stability in Adults With Tardive Dyskinesia: Post Hoc Analyses of Two Long-Term Valbenazine Studies**

*Poster Presenter: Andrew J. Cutler, M.D.*

*Co-Authors: Chirag Shah, Khodayar Farahmand, Leslie Lundt, Rakesh Jain*

#### **SUMMARY:**

**Introduction:** Successful therapeutic management in patients with tardive dyskinesia (TD) often requires treatment of TD symptoms without disruption of psychiatric stability. This can be especially challenging when patients have complex psychiatric conditions (e.g., >1 psychiatric diagnosis) and are taking multiple medications. Therefore, data from two long-term studies (KINECT 3, KINECT 4) were analyzed to evaluate global TD improvement and psychiatric stability in participants who received once-daily valbenazine (40 or 80 mg) for 48 weeks.

**Methods:** Data were pooled and analyzed in participants categorized by primary psychiatric diagnosis: schizophrenia or schizoaffective disorder (“SCHZ”) or a mood disorder (“MOOD”). Medications needed for management of these conditions (and other psychiatric or medical conditions) were allowed in the studies. Global improvement was based on response thresholds of “much improved” or “very much improved” (score =2) at Week 48, as assessed using the Clinical Global Impression of Change-Tardive Dyskinesia (CGI-TD) and Patient Global Impression of Change (PGIC). Psychiatric stability was monitored using the following scales: Positive and Negative Syndrome Scale (PANSS) and Calgary Depression Scale for Schizophrenia (CDSS) in the SCHZ subgroup; Young Mania Rating Scale (YMRS) and Montgomery-Åsberg Depression Rating Scale (MADRS) in the MOOD subgroup. **Results:** More than 75% of study participants in the SCHZ subgroup had robust global improvements with valbenazine, as indicated by the response rates for CGI-TD (79.7%) and PGIC (78.0%) at Week 48. Mean changes from baseline to Week 48 for PANSS scores (positive symptoms [-0.7], negative symptoms [-0.6], general psychopathology [-1.9], total [-3.2]) and CDSS total score (-0.5) indicated maintenance of psychiatric stability in these participants. Similarly strong responses were found in the MOOD subgroup for both CGI-TD (77.6%) and PGIC (84.5%). Mean changes from baseline in YMRS total score (-1.0) and MADRS total score (+0.3) indicated psychiatric stability. **Conclusions:** Pooled analyses from two 48-week studies indicate that long-term treatment of TD with once-daily valbenazine resulted in substantial clinician- and self-rated global improvements while psychiatric stability was maintained, regardless of primary psychiatric condition.

#### No. 72

##### **Occurrence of Intimacy in Psychotherapy: A Survey Study Among Psychotherapists**

*Poster Presenter: Lara Vesentini, M.Sc.*

*Co-Author: Johan Bilsen*

##### **SUMMARY:**

**Background.** A certain level of intimacy is necessary in psychotherapeutic relationships for them to be

effective, but it can sometimes develop further into more intimate feelings and behaviors related to friendship and sexuality, into friendship, or even into sexual relationships. This study investigates how often these intimate feelings and behaviors occur in Flanders, Belgium, and the possible associations with the characteristics of psychotherapists. **Methods.** A self-administered questionnaire was sent to all psychotherapists in Flanders, Belgium. Both an online version was sent as well as a hardcopy of the questionnaire by regular post with a return freepost addressed envelope to the researchers. Anonymity was assured. **Results.** A response rate of 40% was obtained (N=786): 69% of respondents were female therapists. A total of 758 therapists stated that they had actually provided psychotherapy and were included for further analysis. Three percent started a sexual relationship with a current and/or former client, 3.7% started a friendship during therapy and 13.4% started a friendship after therapy. About seven out of ten therapists found a client sexually attractive, a quarter fantasized about a romantic relationship, and a fifth gave a goodbye hug at the end of a session (22%). In general, more male therapists reported sexual feelings and behaviors than female therapists. Older therapists more often behaved informally and started friendships with former clients compared to younger colleagues. Psychiatrists reported sexual feelings and fantasies less often than non-psychiatrists, and behavioral therapists who reported this less frequently than person-centered and psychoanalytic therapists. Overall, prevalence rates of intimate feelings and behaviors related to friendship and sexuality are lower than in previous studies. **Conclusion.** The prevalence for sexual feelings and fantasies was rather high. In contrast, these were lower for more informal behavior, starting friendships and sexual relationships. Vesentini, L., Van Overmeire, R., Matthys, F., De Wachter, D., Van Puyenbroeck, H., & Bilsen, J. Intimacy in psychotherapy: an exploratory survey among therapists. *Archives of Sexual Behavior* (accepted for publication).

#### No. 73

##### **A Survey Study About Psychotherapists' Attitudes to Intimate and Informal Behavior Toward Clients**

*Poster Presenter: Lara Vesentini, M.Sc.*

*Co-Author: Johan Bilsen*

#### **SUMMARY:**

**Background:** To avoid harming or exploiting a client, sexual and non-sexual dual relationship are generally considered as unacceptable in the psychotherapeutic relationship. However, little is known about what therapists themselves constitute as (un)acceptable intimate and informal behaviour.

**Methods:** A survey among psychotherapists in Flanders (Belgium) was conducted. Opinions about the acceptability of intimate and informal behaviour were asked. Based on these opinions attitude groups could be determined (using a k-means cluster analysis). **Results:** 786 therapists completed and returned the questionnaire (response rate 39.8%). Therapists could be divided into three attitude groups. Almost half of the therapists belonged to the 'rather restrictive group', a third to the 'rather socially permissive group', and a fifth to the 'rather sexually permissive group'. Being categorized as 'rather sexually permissive' is predominantly related to being male and non-heterosexual, whereas being 'rather restrictive' or 'rather socially permissive' is mainly due to type of psychotherapy training. The 'rather sexually permissive' therapists more often found a client sexually attractive during the last year and fantasized more often about a romantic relationship with a client, but they did not more often started a sexual relationship. **Conclusions:** Most therapists in Flanders are rather restrictive in their attitude to intimate and informal behaviour, pointing to a high sense of morality. Having a rather sexually permissive attitude is predominantly related to more personal characteristics of the therapists, but these therapists did not start a sexual relationship more often. Vesentini, L., Van Overmeire, R., Matthys, F., De Wachter, D., Van Puyenbroeck, H., & Bilsen, J. (2021). Psychotherapists' attitudes to intimate and informal behaviour towards clients. *Psychological Medicine*, 51(11): 1807-1813.

#### **No. 74**

##### **Peer Recovery Support Program for Video Gaming Addiction**

*Poster Presenter: Jacob Joseph*

#### **SUMMARY:**

video gaming behavior is growing in prevalence and severity. This study examines the outcomes of a novel peer recovery support program for problematic gaming behavior. The peer recovery coaches were trained in reflective listening and motivational interviewing techniques to assist self-selected individuals with video gaming addiction. The peer recovery coaches and participants met for fifty minutes over video chat once a week for a period of 8 weeks. 503 participants were given baseline PHQ-9, GAD-7, IGD-9, and NeuroQOL Purpose and Awareness questionnaires and repeat assessment at 18 weeks. The participants experienced statistically significant improvements in all outcome measures. 388 participants with normal gaming behavior decreased gaming behavior an average of 12.4% ( $\pm 25.1\%$ ) from baseline IGD-9 score, and 115 participants with problematic gaming behavior measured by the IGD-9 improved an average of 22.0% ( $\pm 22.1\%$ ) from baseline score. 249 participants with moderate anxiety improved an average of 21.4% ( $\pm 22.2\%$ ) from baseline scores. 254 participants with severe anxiety improved an average of 22.6% ( $\pm 19.1\%$ ) from baseline scores. 294 participants with moderate depression improved an average of 21.0% ( $\pm 20.6\%$ ) from baseline PHQ-9 score, and 209 participants with severe depression improved an average of 23.7% ( $\pm 21\%$ ) from baseline PHQ-9 score. 224 participants with average feelings of life purpose improved an average of 18.1% ( $\pm 27.1\%$ ) from baseline NeuroQOL scores, and 279 participants with low levels of life purpose improved an average of 46.8% ( $\pm 44.8\%$ ) from baseline life purpose scores. This study shows that the preliminary results on a peer recovery support program for video gaming addiction can be beneficial for decreasing problematic video gaming behavior and peer recovery support programs can also provide substantial benefit for concomitant depression, anxiety, and feels of low life purpose.

#### **No. 75**

##### **Buprenorphine Prescription Patterns in a County Correctional Facility: Patient Population and Post-Release Outcomes**

*Poster Presenter: Zachary Lenane, M.D., M.P.H.*

*Co-Authors: Darryl Liu, L.C.S.W., Cynthia Chatterjee, M.D., Andrea Nicolei Ponce, B.A., Rachel Loewy, Ph.D.*

**SUMMARY:**

**Background:** Opioid overdose is a leading cause of death during the immediate re-entry period after incarceration for those with opioid use disorder (OUD). The adjusted relative risk of death from overdose during the first two weeks after release is extremely high, up to 129 that of non-incarcerated individuals with OUD (2). Extensive research supports medication-assisted treatment (MAT) for OUD in correctional settings and post-release (3); providing buprenorphine during this high-risk period has been shown to be safe and effective, reducing overdose deaths within 12 months of release by 60% (4). However, correctional systems nationwide have been slow to adopt MAT due to concerns about diversion, stigma related to the treatment, and logistical considerations (e.g., understaffing, medication storage) (5, 6). In one sample, nearly 20% of incarcerated people met criteria for OUD, yet only 0.6% received maintenance treatment (1). Our quality improvement study will assess patterns of buprenorphine provision in a new county correctional MAT program and outcomes for individuals with OUD who receive buprenorphine and are referred to MAT services upon release.

**Setting:** Correctional Health Service (CHS) in San Mateo County, CA employs physical and mental healthcare staff at two correctional facilities. CHS providers began prescribing buprenorphine maintenance upon entry and upon release in June 2020. They also work with the Integrated Medication Assisted Treatment (IMAT) program to link county residents with OUD to treatment upon release.

**Methods:** We will examine the provision of buprenorphine at the two correctional facilities and its association with post-release health outcomes (e.g., treatment retention, utilization of emergency services) and reincarceration. Our first study sample includes individuals incarcerated 10/2020 to 10/2021. We will describe demographics and buprenorphine prescribing practices, including number and proportion of individuals identified with OUD, those who presented on buprenorphine, were maintained on it, and were released with it. The second sample will be San Mateo County residents

released from 10/2020 to 10/2021 who were referred to IMAT for treatment. We will use electronic health data to examine MAT treatment engagement and potential associations between demographics and clinical characteristics of individuals and subsequent MAT engagement.

**Results:** We will complete data collection and analysis by the Annual Meeting of the American Psychiatric Association in May 2022. **Conclusions:** Our study will provide preliminary data on the impact of a new MAT program in a county correctional system upon health and criminal justice outcomes. Our results will inform strategies to support populations who may require more intensive interventions, guide future program development, strengthen the partnership between correctional health and county health services, and may serve as a model for other systems of care.

**No. 76**

**Effect of Peer Mentoring on Undergraduate Pre-Medical Student Anxiety and Success**

*Poster Presenter: Mark Andrew Solinski*

*Co-Author: Yuliya Pomeranets*

**SUMMARY:**

**Background:** The medical school admissions process is competitive, as evidenced by the 898,819 applications for 53,371 applicant spots in the 2019–2020 application cycle, of which only 21,869 matriculated, for a matriculation rate of 41%. Furthermore, the level of competitiveness seems to be increasing year after year.<sup>1</sup> While the number of applicants has increased by 26% since 2009, the number of matriculants has only increased by 19% during that same time. This increasing level of competitiveness of matriculating into medical school has a profound influence on premedical students' mental health and well-being as demonstrated by Fang and colleagues. Their studies found that premedical students are more likely to have greater depression severity, burnout, emotional exhaustion, and are more likely to meet the screening criteria for presence of major depressive disorder and exhibit more severe depression than non-premedical students. To combat the rising level of premedical student stress and anxiety, one can leverage the knowledge of near-peers through mentoring.

Methods: Premedical and medical students from Loyola University Chicago were recruited to participate in the study. At the beginning of the study period, mentees were asked to answer the beginning of the year questionnaire asking about their prior experience with mentors, current anxiety level, and future career aspirations. At the end of the study period, mentees and mentors were asked to complete an end of the year survey that is identical to the pre-intervention survey. Participants were also given an additional questionnaire asking about how much students enjoyed the program and their perceptions on the relevance of the material.

Results: A total of 72 undergraduate mentees, 22 graduate mentees, and 39 medical student mentors participated in the program. Mentors and mentees both reported they valued their time in the program. There was an increase in mentees' College Student Mentoring Scale and a decrease in self-reported anxiety levels. Mentors reported that participation improved their overall medical school experience, mentorship skills, and leadership skills. Conclusion: Having a program that is rewarding to both mentees and mentors appears to help prevent medical student burnout and mentor attrition. This demonstrates that near-peer mentoring can have a profound impact on student well-being. Aside from having the benefits of utilizing a mentor's knowledge base, peer to peer mentoring has also been shown to increase psychosocial well-being in premedical students. While it is an important concern, as current premedical students are future physicians, there is very little work being done to understand or improve the experience of the current undergraduate premedical students. This study shows that near-peer mentoring can be utilized to combat premedical student anxiety and improve their chances of success.

#### **No. 77**

##### **The Effects of the COVID-19 Pandemic on Graduating Psychiatry Residents**

*Poster Presenter: Katherine T. Mun, M.D.*

*Co-Authors: Dorthea Juul, Ph.D., Larry R. Faulkner, M.D.*

#### **SUMMARY:**

**Introduction:** COVID-19 was declared a pandemic on March 11, 2020. Shortly thereafter, on March 18, 2020, the American Board of Psychiatry and Neurology (ABPN), posted a statement regarding board eligibility on its website and sent it to program directors and coordinators. The ABPN affirmed its commitment to being flexible with training requirements as long as the Program Director approved the training experiences. Subsequently, the Board also offered applicants the option to transfer to the 2021 Certification Examination and waived the transfer fee. **Objective:** To assess the impact of the pandemic on training and well-being and senior residents' awareness of the ABPN's position on eligibility for certification and to estimate the effect on examination participation.

**Methods:** The 36-item survey was delivered in May 2020 via SurveyMonkey to the 545 new applicants for the September 2020 Certification Examination. An IRB confirmed that the survey was exempt from IRB approval. ABPN records were used to obtain the examination participation data. **Results:** The response rate was 69.0% (376/545). Detailed responses will be presented in the poster.

**Conclusions:** Residency programs adapted to the pandemic without compromising training or violating duty hour restrictions. At this early point in the pandemic, most residents felt that the experience had either made them a better physician or had no effect on their training. The great majority of residents had met training requirements, including clinical skills evaluations, at the time of the survey (3-4 months before graduation). There were no changes in examination dates due to the pandemic. A significant number of applicants chose to defer their certification examination by a year. The first-time taker pass rate in 2020 was equivalent to previous years.

#### **No. 78**

##### **Learnneuropsych: The Development of an E-Learning Neurology Curriculum for Psychiatry Residents**

*Poster Presenter: Nuri Jacoby*

*Co-Author: Daniel Shalev, M.D.*



**SUMMARY:**

**Objective:** Creation of an e-learning neurology curriculum for psychiatry residents. **Background:** Psychiatry residents complete two months of neurology during the psychiatry residency as mandated by the ACGME. However, neurology training is not standardized with significant variability in setting and content of the clinical neurology experience, including didactic teaching.<sup>1</sup> **Design/Methods:** In response to recognized gaps in neurology training for psychiatrists,<sup>1</sup> an interactive e-learning curriculum was designed. The curriculum consists of ten case-based modules 25-35 minutes in length that are tailored towards psychiatry residents with the goal of complementing clinical neurology experiences with psychiatry-specific neurology didactics. The content of the curriculum includes the neurocognitive exam including the MMSE and MOCA screening tests, the language exam, neurocognitive syndromes, and movement disorders. These topics were selected using surveys conducted by the authors of an expert panel of psychiatrists and neuropsychiatrists with experience in medical education and e-learning as well as prior data elucidating the most important neurology topics for psychiatrists according to trainees and training directors.<sup>2</sup> The modules employ best practices in e-learning including spaced repetition, integration of videos, and interactivity.<sup>3</sup> The curriculum is accessible for free to the public at [www.learnneuropsych.com](http://www.learnneuropsych.com). **Results:** The curriculum is currently being piloted by psychiatry residents at SUNY Downstate Health Sciences University and Maimonides Medical Center. In the current pilot phase, participating residents are completing pre-post testing in knowledge and attitudes regarding neurology. **Conclusion:** LearnNeuropsych is a novel neurology curriculum designed to meet the needs of psychiatry trainees and to mitigate inconsistent neurology training practices nationally. It is a publicly available resource that can be utilized by training programs and by individual learnings to supplement and enhance neurology training.

**No. 79****Development of a Visual Tool to Evaluate the Burden of Schizophrenia in the U.S.: The Schizophrenia Ecosystem Tool (SET)**

*Poster Presenter: Charmi Patel, M.P.H., R.N.*

*Co-Authors: Carmela Benson, M.S., M.S.H.P., Shannon Grabich, Ph.D., Laura Morrison, M.P.H., Dominic Pilon, M.A.*

**SUMMARY:**

**Background:** The low prevalence of schizophrenia (SCZ) belies the extent and breadth of its impact on the healthcare system and on society. There is currently a lack of comprehensive and centralized information on the burden of SCZ, such as healthcare resource utilization (HRU), quality measures, and costs, at the state and county level. There is also a need for centralized state-level information on policies and social determinants of health (SDOH), factors that may influence the overall quality of care, access, and experience of patients with SCZ. The Schizophrenia Ecosystem Tool (SET) was developed to fill this need, creating an interactive map-based resource that provides data pertinent to the understanding of SCZ burden at the country, state, and local levels. **Methods:** SET provides a visual framework, developed using geographical information systems, to generate state- and county-level maps representing data that are either specific to patients with SCZ or to the general population, depending on the nature of the variable. There are 6 data categories. The first 2 categories, SDOH (eg, prevalence of serious mental illness [SMI], uninsured/underinsured, homelessness) and healthcare policies (eg, availability of Certified Community Behavioral Health Centers, state policies on antipsychotic adherence reporting), were sourced from publicly available information and summarized at the state level. The remaining 4 categories, derived from 2016-2018 Medicaid Transformed Medicaid Statistical Information System Analytical file (TAF) data, are specific to patients with SCZ and include antipsychotic utilization, HRU, quality measures, and cost of care. Individual variables within these categories are displayed at the state and county levels, provided there are ≥11 analyzable patients per subset. **Results:** SET is planned for roll-out in Q1 2022. Initially, it will be available through scientific personnel, followed by roll-out to population health decision makers, policy makers, and other stakeholders involved in managing patients with SCZ. SET facilitates discussions among these professionals by highlighting region-specific areas of need for greater resource allocation and

identifying patient groups who are currently underserved. For example, SCZ is a major contributor to SMI, which nationally has a prevalence of 4.9%. However, there is tremendous variation at the state level, with prevalence rates ranging from 3.6% to 6.4%. Moreover, nationally the median number of mental health providers per 10,000 residents is 23, but in the 3 states with the highest SMI prevalence, only 1 state had >20 providers per 10,000 residents. Knowledge of these types of localized inequities allows for the development of targeted policies and practices to improve quality and access to care. **Conclusion:** SET helps visualize SCZ burden across the US at the state and local levels, thereby providing key insights that can be used to inform mental health service planning and provision.

#### **No. 80**

##### **Budget Impact of Introducing Once-Every-Six-Months Paliperidone Palmitate for the Management of Schizophrenia Among Medicaid Beneficiaries in Georgia**

*Poster Presenter: Charmi Patel, M.P.H., R.N.*

*Lead Author: Hilary Phelps*

*Co-Authors: Dee Lin, Danmeng Huang, Chih-Yuan Cheng*

#### **SUMMARY:**

**BACKGROUND:** The prevalence of schizophrenia among Medicaid beneficiaries was estimated at 2.7% in 2016; however, the economic burden of schizophrenia is substantial, where the mean excess costs associated with schizophrenia was \$14,087 per patient per year (Pilon 2021). Treatment non-adherence is a key challenge in schizophrenia management and a major contributor to the disease burden; hence, therapies that maximize adherence are a recognized need. Once-every-six-months paliperidone palmitate (PP6M), which has the longest dosing interval and thus fewest doses per year of any antipsychotic, can be an important treatment option for payers like Medicaid who are looking to optimize schizophrenia management. A budget impact model (BIM) was developed to estimate the costs of introducing PP6M for the management of schizophrenia from a Medicaid perspective, using the Georgia (GA) Medicaid

program as an example. **METHODS:** The BIM estimated healthcare costs before and after introducing PP6M to the GA Medicaid program, over 5 years. PP6M is indicated for adults with schizophrenia who are stabilized on once-monthly (PP1M) or once-every-three-months (PP3M) paliperidone palmitate; hence, PP6M was assumed to displace market share from PP1M and PP3M only. Model inputs included prevalence of schizophrenia, treatment market shares, treatment adherence rates, relapse rate and costs, and drug acquisition and administration costs. The model outputs were incremental annual and 5-year cumulative costs, per-treated-patient-per-year (PTPPY) costs, and per-member-per-month (PMPM) costs. One-way sensitivity analysis was conducted. **RESULTS:** Among approximately 2.1 million enrollees in the GA Medicaid program, the size of the population with schizophrenia eligible for PP6M was estimated to be 1,222 patients in Year 1 and 1,814 patients in Year 5. Based on an annual market share shift to PP6M of 5% from PP1M and 10% from PP3M, the model projected an incremental budget impact that ranged from \$162,660 at Year 1 to \$241,502 at Year 5. This translated to a cumulative incremental budget impact of \$1,000,695 and an average \$133.15 PTPPY or \$0.0078 PMPM over 5 years. The improved adherence rate with PP6M resulted in lower relapse rates and drug administration costs, which partially offset the increased drug acquisition costs due to better adherence. The model results were most sensitive to drug acquisition costs and treatment adherence rates. **CONCLUSIONS:** Introducing PP6M to the GA Medicaid program for managing adults with schizophrenia who are currently stabilized on PP1M or PP3M is projected to have a low impact on the state budget over 5 years. Modeling the impact of PP6M to the Medicaid budget of a state, like GA, can help policy makers with formulary decisions aimed at improving medication adherence and optimizing outcomes for beneficiaries with schizophrenia. **REFERENCE:** Pilon D, et al. *Curr Med Res Opin.* 2021;37(10):1811-1819.

#### **No. 81**

##### **COVID-19 Psychosis Versus Early-Onset Schizophrenia**

*Poster Presenter: Ruth Grant, M.D.*

*Co-Authors: Michael Ford, Rasha El Kady, M.D.*

**SUMMARY:**

Z, a 13-year-old African American female with a history of excessive daytime sleepiness, ADHD, and unspecified anxiety disorder, presented to the emergency room with acute onset of paranoia, delusions, and auditory/visual hallucinations. There was no family history of psychotic illness and her family denied any recent prodromal symptoms of schizophrenia. Initial work-up including vital signs, laboratory studies, and urine drug screen were unremarkable except for the COVID-19 PCR test, which was positive, although Z did not have any symptoms of active infection. Z was admitted to the hospital and started on olanzapine for symptoms of psychosis. Given the acute onset of severe symptoms and patient's age, further work-up including a brain MRI and EEG were performed, but these studies did not indicate an alternative cause of the patient's symptoms. Despite trials of multiple antipsychotic medications, Z continued to exhibit prominent symptoms of psychosis. Additionally, patient began exhibiting fluctuations in her mental status throughout the day leading to concern for autoimmune encephalitis as the etiology of the patient's symptoms. It was also discussed whether recent COVID-19 infection may have precipitated the onset of our patient's symptoms as some case reports suggest COVID-19 as a trigger for neuropsychiatric illness. However, CSF studies, including autoantibody testing for autoimmune encephalitis, yielded negative results. Treatment course was complicated by the emergence of symptoms of catatonia, which eventually improved after treatment with ECT. Given the lack of adequate symptom response to multiple antipsychotic medications, patient was started on clozapine for refractory psychosis. Additionally, as our patient continued to have a poor response to antipsychotic medication, Rheumatology was consulted for further evaluation of a possible autoimmune etiology of Z's symptoms. Z subsequently received a trial of high dose steroids and IVIG, but she had minimal symptomatic improvement. Thus, an underlying autoimmune etiology for her symptoms is considered unlikely. She was ultimately discharged home on clozapine 81 days after her initial presentation with partial improvement in the severity of her hallucinations and delusions, but with

continued significant functional impairment. Recent research continues to suggest that COVID-19 infection increases one's risk for numerous psychiatric and neurological conditions. In our case, it remains unclear what role, if any, the patient's COVID-19 infection had on her disease course and overall poor response to medication management. In this poster, we discuss the difficulties we face in distinguishing autoimmune causes from other causes of psychosis in pediatric patients as well as considerations for pursuing immunotherapy in this patient population.

**No. 82****Providing Gender-Affirming Care for Transgender Patients**

*Poster Presenter: Jesse Peter Cannella*

*Co-Authors: Nita V. Bhatt, M.D., M.P.H., Julie P. Gentile, M.D., M.B.A.*

**SUMMARY:**

Joshua H, a 16 year-old transgender male, using he/him/his pronouns, with no known past psychiatric history, presented to the children's hospital for intentional Tylenol overdose. The patient was initially admitted to the hospital pediatrics service for medical stabilization. Inpatient psychiatry was consulted, but deferred treatment until medical clearance. The patient presented with severe 10/10 abdominal pain, somnolence, and nonbilious emesis. Liver functions and INR were found to be elevated. Metabolic panel and CBC were otherwise within normal limits, and the patient was promptly treated with N-acetylcysteine. By hospital day two, the patient's alertness and orientation were significantly improved, with a quiet but pleasant affect and appropriate mood. The patient admitted to depression for the past two years, with two suicide attempts. Inpatient PHQ-9 was found to be 29. Joshua reported an affirming and supportive household, but consistent bullying and misgendering at school. Joshua reported that his peers and teachers refuse to use his preferred name and continue to refer to him as "a girl", harassing him every time that he uses female restrooms or locker rooms. Joshua has never followed with a psychiatrist and has not received gender-affirming treatment, but desires hormone therapy. While inpatient,



cXVhbCBiZWxpZWZzIGFib3V0IGdlbmRlciByb2xlcY80b2RheS4gwgkgVGhllEF1dGhv  
cihzKSAyMDEzLiBQdWJsaXNoZWQgYnkT3hmb3JkIFVuaXZlcnNpdHkgUHJlc3MsIG  
9uIGJlGfSziBvZiBQcmVzaWRlbnQgYW5kIEZlbGxvd3Mgb2YgSGFydmlFyZCBDb2xs  
ZWdlLiBBbGwgcmlnaHRzIHJlc2VydmlkLlslmlz3VlljoiMlslZnZvbHVtZS16lEYOCj9L  
Clpc1RlBxVbcmFyeSl6ZmFsc2V9XSwicHJvcGVydGllcy16eyJub3RlSW5kZXgiOjB9LCI  
pc0VkaXRlZCI6ZmFsc2Uslm1hbnVhbe92ZlJyaWRllj71mlzTWfudWFsbHlPdmVyc  
mlkZGVuljpmYWxzZSwiY2l0ZXByb2NUZXh0ljoipHN1cD4xPC9zdXA+liwibWFudWF  
sT3ZlcnJpZGVUZXh0ljoiln19">1</w:sd> This paper builds on their  
analysis to examine whether historical plough use, through creation of unequal gender norms, creates observable cross-country differences in common mental health disorders including major depressive disorder, anxiety disorders and suicide. The study links historical data from the Murdock *Ethnographic Atlas*, ethnolinguistic data from Gordon's *Ethnologue: Languages of the World*, population density data from *Landsat* and modern economic data from the World Bank to mental health outcomes from the WHO and Global Burden of Disease Project. Multiple linear regression is used to estimate the relationship between historical plough use (proxy for historical gender norms) and modern mental health outcomes, controlling for historical and modern society characteristics, including income and services availability. To further investigate a causal interpretation of the results, plough use is instrumented using geoclimatic suitability for plough agriculture, with effects estimated through a two-staged least squares regression. Data on binary sex was used as a proxy for gender as further information on gender was not reported in these datasets. **Results:** Proxied through increased plow use, more unequal gender norms leads to higher rates of major depressive disorder for women (760.4, CI: 310.4-1210.4,  $p < 0.01$ ) and men (451.4, CI: 169.9 to 732.9,  $p < 0.01$ ). It also leads to higher rates of anxiety disorders for women (1190, CI: 546.7 to 1832.8,  $p < 0.001$ ) and men (487.1, CI: 173.8 to 800.5,  $p < 0.01$ ) for  $n=208$  countries. Instrumenting for plough use using climatic suitability for plough agriculture produces similar results for major depressive disorder and anxiety disorders. **Conclusions:** Historically unequal gender roles appear to lead to higher rates of anxiety disorders and major depressive disorder globally for both females and males. Constrictive social expectations for gender roles may be detrimental for mental health in both sexes. Improvements in gender norm equality may benefit mental health globally.

## No. 85

### Patience Versus Risk in Global Suicide Rates: Examining Economic Preferences

Poster Presenter: Matthew Basilio, M.D., Ph.D.

#### SUMMARY:

**Motivation:** Suicide has long been examined through the contrasting lenses of impulsivity and reason. Economists have particular definitions of related constructs – quasihyperbolic discounting, or patience, and risk – which may help to shed insight into the social etiologies of suicide. Newly available data allows investigation of whether on a societal level, patience, risk and trust relate to levels of completed suicide. **Methods:** Country-level, age-standardized suicide rate estimates per 100,000 in 2019 were obtained from the World Health Organization's *Global Health Observatory data repository* ( $n=183$ ). Data quality on suicide was categorized using the World Health Organization's *Preventing Suicide: A Global Imperative* (2014), where highest quality data indicates comprehensive vital registration and at least 5 years of data ( $n=59$ ). To examine the relationship between economic preferences and suicide, the WHO data was linked to global data from the Global Preferences Survey (GPS, 2018), which performed a representative sample of  $n=76$  countries, comprising over 80,000 individuals. The GPS used experimentally-validated measures of economic preferences, including patience, risk, altruism, prosocial reciprocity, antisocial reciprocity and trust. World Bank 2019 data on income and health expenditure per capita were used as controls. The relationship between suicide and economic preferences was estimated using ordinary least squares regression with heteroskedasticity robust standard errors. **Results:** Patience was a positive and significant predictor of country-level suicide rate, with a unit increase in patience (equivalent to 2.7 standard deviations of the mean) associated with a 2.6 increase in the suicide rate per 100,000 [95%CI: 0.4 to 4.9,  $p < 0.02$ ,  $N=76$ ], with similar estimates controlling for country income per capita and out-of-pocket health expenditure percentage [ $b=3.9$ , 95%CI: 1.0 to 6.8,  $p < 0.01$ ,  $N=73$ ]. Restricting the sample to high-quality data countries produced an estimate similar in magnitude but no longer significant [ $b=4.4$ ,

95%CI: -9 to 9.7,  $p=0.10$ ,  $N=35$ ]. Risk was not significantly associated with suicide in full [b=3.3,95%CI: -2.0 to 8.5,  $p=0.21$ ] and high-quality samples. Trust was associated with a lower suicide rate in the full sample [b= -5.6, 95%CI: -9.4 to -1.86,  $p<0.01$ ], with similar magnitude and not significant in the high-quality sample. Additional preferences were not significantly associated with suicide. **Conclusions:** Countries with higher levels of patience have higher levels of suicide. The relationship between suicide and economic risk preferences remains unclear. These findings support the consideration of patience and rationality in models of suicidal behavior. Trust is negatively associated with country suicide rates.

#### No. 86

##### **Social Determinants of Suicide in America: An Ecological Study on the Attitudes and Prevalence of Cannabis Among Young Adults 1999–2019**

*Poster Presenter: Samantha Ibarra To*

*Co-Authors: Theodore Malmstrom, Felicia Lee*

#### **SUMMARY:**

Background: Suicide is a public health concern that affects more than 1 million people globally each year. In the US suicide remains the second leading cause of death among people ages 15-24. Since 2012, the legalization of marijuana in most American states has increased the accessibility and utilization of cannabis. Attitudes towards cannabis have also shifted by becoming more mainstream. Recent studies suggest a link between suicidality and cannabis use among young adults. Adolescent cannabis use is associated with a higher risk of depression and suicidal behavior later in life. How attitudes and prevalence of cannabis relate to the trends in suicide rate over the past two decades remains unknown. **Objective:** To investigate the correlation between attitudes towards cannabis, including perceived risk and disapproval of occasional use, as well as its reported use by gender and suicide rates among young adults in the US between 1999-2019. **Methods:** We conducted an ecological analysis using publicly available data. Data were from twenty years (1999-2019) of the CDC's Web-based Injury Statistics Query and Reporting System and University of Michigan's Monitoring the

Future surveys, which include about 50,000 respondents annually. The exposures of interest are the prevalence of annual, 30-day, and daily cannabis usage and attitudes towards its effects. All analyses are conducted and presented at the ecological level. **Results:** Between 1999 and 2019, the suicide rate among Americans ages 19-30 increased from 12.1 to 17 per 100,000 persons ( $n=147,293$ ). Decrease in perceived risk of occasional marijuana use was significantly associated with an increase in the suicide rates of adults ages 19-22 ( $R^2=0.80$ ,  $F=75.8$ ,  $P<0.001$ ) and 27-30 ( $R^2=0.86$ ,  $F=114.1$ ,  $P<0.001$ ). The decrease in the percent of people who greatly disapprove of occasional marijuana use was significantly associated with increase in suicide rates for ages 19-22 ( $R^2=0.89$ ,  $F=145.7$ ,  $P<0.001$ ), 23-26 ( $R^2=0.89$ ,  $F=150.2$ ,  $P<0.001$ ), and 27-30 ( $R^2=0.93$ ,  $F=264.3$ ,  $P<0.001$ ). Annual prevalence of cannabis use was significantly associated with suicide rates of men ages 23-26 ( $R^2=0.78$ ,  $F=66.5$ ,  $P<0.001$ ), men ages 27-30 ( $R^2=0.77$ ,  $F=64.6$ ,  $P<0.001$ ) and women ages 27-30 ( $R^2=0.77$ ,  $F=62.6$ ,  $P<0.001$ ). Prevalence of cannabis use within 30-days was significantly associated with suicide rates of women ages 23-26 ( $R^2=0.81$ ,  $F=78.7$ ,  $P<0.001$ ). **Conclusions:** In an ecological analysis of trends between 1999 and 2019, we found that the attitudes toward cannabis and its use were significantly associated with an increase in suicide rates among young people in the US. One limitation of this study is the possibility of ecological fallacy; as such, causal relationships cannot be established and further research is needed at the individual level of association. Although social determinants of suicide are complex, more lenient attitudes towards cannabis and higher prevalence of its use are associated with higher suicide rates over time.

#### No. 87

##### **What Restrictions Means Restriction**

*Poster Presenter: Iulius Greco, M.D.*

#### **SUMMARY:**

Suicide is one of the leading causes of death and Suicide prevention is of major interest. The presence of Firearms is associated with an increased risk of suicide and safe firearm storage is associated with a decreased risk (1). Limiting access to lethal methods

for suicide is an important aspect of suicide prevention, (2),(3). Much emphasis is placed on assessing for intent with suicide assessment, although the validity of intent in predicting death by suicide is questionable (2). In theory, that makes performing means restriction that much more critical. The rate at which means restriction is performed is difficult to estimate and little data appears to be published. Existing data on the rate of means restriction counseling seems to focus on the emergency room setting. There, it has been estimated that 45% of emergency departments in Washington State do not have means restriction as part of the workflow in 2007. ED providers appear skeptical about the preventability of suicide and the effectiveness of means restriction, and most do not assess firearm access in suicidal patients except when a firearm is apart the suicide plan (1), (4). Additionally, a survey of psychiatrists in 2012 found that half had never seriously considered assessing firearms with their patients (3). Given the above, there is likely room for improvement regarding the quality and frequency that means restriction is discussed in the outpatient psychiatric setting. Additionally, training programs with the aim of improving provider comfort with the topic and improving the rate counseling on means restriction appear to be effective and well received (3), (5).

**METHOD** The rate of means restriction, and resident comfort level was assessed. Interventions included adding standardized questions to screening forms on the topic of means restriction along with the addition of resident education on the topic. Retrospective chart review was performed screening charts for suicidal ideation, and presents for terms such as “means restriction,” “firearms” and “guns” in the EHR within a 6-month period.

**RESULTS.** Baseline rates from 115 patient charts showed that means restriction counseling was performed in ~ 23% and 25% of patients expressing and not expressing suicidal thoughts. Additionally, 9% of patients with a recent history of suicidal thoughts who did not undergo means restriction counseling also had previously voiced access to firearms in per conversation with healthcare workers.

**CONCLUSION** Rate of means restriction counseling appear to be low and patients with access to health means are commonly misused in the psychiatric residential setting. Early post-intervention- data indicate that

adding standardized questions regarding means restriction along with supplemental educational material appear to increase comfort and rate of means restriction counseling in the outpatient psychiatric residency setting.

## **No. 88**

### **Construct Validity of the SPECTRA Suicidal Ideation Scale**

*Poster Presenter: Andrew Lloyd Silverman, M.D.*

*Co-Authors: Winnie Tsai, D.O., Jimmy Metellus, M.D.*

#### **SUMMARY:**

**Title:** Construct validity of the SPECTRA suicidal ideation scale: Relationships with select scales of the DSM-5-Cross-Cutting Level 1 Measure and the Personality Inventory for DSM-5-Brief Form **Intro:** The current study investigates the suicidal ideation scale of the SPECTRA, (Blais & Sinclair, 2018) a new broad measure of psychopathology, validity with the PID-5-BF and the DSM-5 Cross Cutting Measure.

**Methods:** 115 adult patients receiving treatment at Mather Hospital’s outpatient behavioral health clinic consented and completed a packet of self-report measures. This packet included the SPECTRA-Indices of Psychopathology (Blais & Sinclair, 2018), a 96-item self-report broad measure of psychopathology, the Personality Inventory for the DSM-5-Brief Form (PID-5-BF; APA, 2013), a 25-item self-rated personality trait assessment scale for adults assessing 5 personality traits (negative affect, detachment, antagonism, disinhibition, and psychoticism), and the DSM-5 Cross-Cutting Level 1 Measure (APA, 2013). **Results:** The average age of participants was 39.71 (SD=16.72) and included 69.6% males (n=80). Results revealed that the SPECTRA clinical scale measuring suicidal ideation was correlated with the DSM-5 Cross Cutting Level 1 Measure scales of suicidal ideation ( $r = 0.83, p < 0.001$ ), depression ( $r = 0.52, p < 0.001$ ), anger ( $r = 0.29, p = 0.01$ ), somatic symptoms ( $r = 0.27, p < 0.01$ ), sleep problems ( $r = 0.25, p < 0.01$ ), PID-5-BF traits of negative affect ( $r = 0.53, p < 0.001$ ), detachment ( $r = 0.61, p < 0.001$ ), antagonism ( $r = 0.28, p < 0.01$ , and disinhibition ( $r = 0.34, p < 0.001$ ). **Discussion:** Our results show that the SPECTRA clinical scale measuring suicidal ideation shows very good construct validity as it is related to select scales of the DSM-5 Cross Cutting

Level 1 Measure and the PID-5-BF in theoretically predicted ways

#### No. 89

##### **Construct Validity of the SPECTRA Depression Scale: Relationships With Select Scales of the DSM-5-Cross-Cutting Level 1 Measure and the Personality in**

*Poster Presenter: Jimmy Metellus, M.D.*

*Co-Authors: Jamie Olschewski, Winnie Tsai, D.O.*

##### **SUMMARY:**

**Intro:** The current study investigates the depression scale of the SPECTRA, (Blais & Sinclair, 2018) a new broad measure of psychopathology, validity with the PID-5-BF and the DSM-5 Cross Cutting Measure. **Methods:** 115 adult patients receiving treatment at Mather Hospital's outpatient behavioral health clinic consented and completed a packet of self-report measures. This packet included the SPECTRA-Indices of Psychopathology (Blais & Sinclair, 2018), a 96-item self-report broad measure of psychopathology, the Personality Inventory for the DSM-5-Brief Form (PID-5-BF; APA, 2013), a 25-item self-rated personality trait assessment scale for adults assessing 5 personality traits (negative affect, detachment, antagonism, disinhibition, and psychoticism), and the DSM-5 Cross-Cutting Level 1 Measure (APA, 2013). **Results:** The average age of participants was 39.71 (SD=16.72) and included 69.6% males (n=80). Results revealed that the SPECTRA clinical scale measuring depression was correlated with the DSM-5 Cross Cutting Level 1 Measure's scales of depression ( $r = 0.78, p < 0.001$ ), somatic symptoms ( $r = 0.33, p < 0.01$ ), suicidal ideation ( $r = 0.61, p < 0.001$ ), sleep problems ( $r = 0.43, p < 0.001$ ), substance use ( $r = 0.28, p < 0.01$ ), PID-5-BF's traits of negative affect ( $r = 0.70, p < 0.001$ ), detachment ( $r = 0.70, p < 0.001$ ), antagonism ( $r = 0.36, p < 0.001$ ), disinhibition ( $r = 0.53, p < 0.001$ ). **Discussion:** Our results show that the SPECTRA clinical scale measuring depression shows very good construct validity as it is related to select scales of the DSM-5 Cross Cutting Level 1 Measure and the PID-5-BF in theoretically predicted ways.

#### No. 90

##### **An Academic Medical Center's Mental Health Clinicians' Fears and Preference for Virtual Visits During COVID**

*Poster Presenter: Shirley Diana Angela Alleyne, M.D.*

*Co-Authors: Kitty Leung, M.D., Karen Homa, Ph.D., Julia Adams, M.D.*

##### **SUMMARY:**

**Background:** Past studies have documented high mental health (MH) clinician satisfaction with virtual visits. However, there is limited knowledge of MH clinicians' preference for virtual versus in-person visits in academic centers during the Coronavirus-19 pandemic (COVID). Our study assessed MH clinicians' (including psychiatrists, advanced practice practitioners, psychologists, psychotherapists, and psychiatry trainees (psychiatry and child and adolescent psychiatry fellows)) fear of COVID, preference for virtual visits, and the utility of virtual visits as an educational tool during COVID. **Methods:** An anonymous survey was distributed via Qualtrics to MH clinicians at an academic center in March 2021. The survey captured clinicians' clinical categories and types of services rendered via virtual visits. It utilized selected items from the Telehealth Usability Questionnaire (TUQ) to evaluate their experience with virtual visits during COVID. Additionally, it assessed their COVID fear level, clinical, and educational preferences for virtual visits during COVID. Clinicians rated statements on their fear of COVID and preferences for virtual visits on a five-point Likert scale from Strong Disagree (1) to Strong Agree (5). Responses of Agreed and Strong Agreed were aggregated and reported as Top Box. Results were reported as a percentage of Top Box with a 95% confidence interval. Free responses were analyzed using thematic analysis. **Results:** Survey response rate was 78% (28 of 36 invitees). Clinicians identified their clinical categories as psychiatry trainees 48% (n=11), psychiatrists 26% (n=6), psychotherapists 17% (n=4), and advanced practice practitioners 9% (n=2). Of the 25 clinicians who answered TUQ items, 40% had previously used virtual visits. A minority of clinicians (36%) feared COVID to the extent that they preferred virtual over in-person visits. Overall satisfaction with virtual visit usability was high (Top Box: 84% for simple to learn, 88% for hearing the patient, 92% for talk to patient



and patient can hear me). Concurrently, the lowest percentage of Top Box responses were for statements indicating preference for virtual over in-person visits (Top Box: 12% for facilitating telepsychiatry group visits better, 28% for facilitating telepsychiatry individual visits better and 32% see the patient as well as in-person). Thematic analysis echoed concerns around virtual visit quality, simultaneously highlighting its' ability to erase barriers to MH care. Educators assessed virtual visits to be a good teaching modality during COVID (Top Box: 87%). Additionally, psychiatry trainees unanimously reported that virtual visits are a good learning modality during COVID (Top Box: 100%). **Conclusion:** MH clinicians overall preferred in-person to virtual visits during COVID. They recognized virtual visits' usefulness in bridging barriers to care and as a good educational tool. Further studies on optimizing the quality of MH virtual visits are warranted.

#### **No. 91**

##### **An Exploratory Analysis in Understanding the Neuropsychiatric Symptoms of Long COVID in College Students Using Digital Phenotyping**

*Poster Presenter: Suraj K. Patel, B.A.*

#### **SUMMARY:**

As we begin to understand the neuropsychiatric sequelae of COVID-19, scalable interventions become an increasingly important goal. The urgency to understand COVID-19's long-term symptoms, popularly known as "long COVID", becomes a growing topic of concern, especially from a neuropsychiatric lens, as a 33% incidence rate has been found for neurological or psychiatric diagnosis in the following 6-months after COVID-19 exposure (Taquet, Geddes, Harrison, 2021). This highlights the importance of conducting longitudinal studies to understand COVID-19's sequelae. While wearable studies are increasing in popularity, we introduce smartphone-based digital phenotyping through self-reported assessments and sensor data monitoring. As smartphones are far more accessible in the general populous, this method presents a scalable way to conduct wide-scale research. Part of a secondary analysis, we conducted analyses on a 4-week digital phenotyping study using the mindLAMP

smartphone app for 695 college students with elevated stress scores. Students were assessed on exposure to COVID-19 in the intake questionnaire. In the study, students completed a biweekly survey of several clinical assessments to obtain active data. Additionally, passive data streams were extracted from phone sensors and through features our group built. 507 participants successfully completed the biweekly survey and of those, 382 specified their COVID-19 exposure. We used t-tests to test for differences in active data stratified on individual surveys in the biweekly survey based on COVID-19 exposure. Significantly different surveys were further tested for differences between exposure groups on a question level. Students' passive data were also tested for differences based on exposure groups. We found significantly higher scores for the Prodromal Questionnaire (PQ) and the Pittsburgh Sleep Quality Index (PSQI) for students who exposed to or thought they had been exposed to COVID-19 compared to those who were not ( $ps < .05$ ). Additionally, we found significantly decreased sleep duration in the passive data for the COVID-19 exposed group ( $p < .05$ ). Our findings match much of previous findings on long COVID symptoms, in which disturbed sleep and fatigue have been cited as common symptoms (Wildwing & Holt, 2021). Additionally, various case studies have found patients who contracted COVID-19 have experienced psychotic symptoms, which is in line with our PQ findings (Correa-Palacio, Hernandez-Heurta, Gómez-Arnau, Loeck & Caballero, 2020; Rentero et al., 2021). The passive data's results around decreased sleep duration and the elevated reports of sleep disturbances showcase how smartphone digital phenotyping may provide a clear picture of assessing psychophysiological symptoms in tandem. The present study's utilization of digital phenotyping through an accessible medium and on a young population paints the way for further research to implement scalable interventions and observational studies.

#### **No. 92**

##### **Virtual Reality and Its Current and Future Potential Role in Mental Health Care**

*Poster Presenter: Aidaspahic S. Mihajlovic, M.D., M.S.*

*Co-Authors: Christopher Reggi, Seher Siddiqui*

**SUMMARY:**

Virtual reality (VR) uses technology to temporarily transport patients to simulated 3D alternate environments, enabling patients to experience new realities. Studies show that VR is just as effective as in vivo exposure therapy in treating various anxiety disorders. VR alleviates burdens associated with in vivo exposure therapy, increasing patients' sense of safety and therapists' control, lowering costs, standardizing training in exposure therapy, and reducing the time burden for therapists. VR offers a "best of both worlds" where full manipulative and experimental control meets strong replicative ability and reproducibility. The limitations and setbacks of VR treatment include but not are limited to slow development and implementation, high costs for software and accessories, oversaturation of the market with applications leading to lack of standardization, and general negative emotions that VR therapy elicits. Nevertheless, VR offers a potential answer to a wide array of clinical questions. Development and progression depend on continued research and funding that should be viewed as a valuable addition to current mental health initiatives.

**No. 93****Is Ketamine Infusion an Effective Treatment for Posttraumatic Stress Disorder? Systematic Literature Review and Meta-Analysis**

*Poster Presenter: Cyrus Mowdawalla, B.S.*

*Co-Authors: Basant Pradhan, M.D., Noud van Helmond, M.D., Ph.D.*

**SUMMARY:**

**Background:** Post-traumatic stress disorder (PTSD) affects 5 to 6% of adolescents and adults in the US. PTSD is associated with substantial comorbidities such as treatment resistant depression (TRD), suicide, substance abuse, metabolic syndrome and loss of quality of life. There are currently few pharmacological treatments that have been approved for use in PTSD and existing treatments lack significant efficacy. Increased NMDA receptor activation leads to heightened intrusive memories and is associated with an overall increased risk of developing PTSD. Ketamine is an NMDA antagonist with ultra-rapid therapeutic actions (in 40-minutes)

in TRD and suicide: thus, it has garnered attention as a potential PTSD treatment. We aimed to systematically review the effect of subanesthetic ketamine infusion on PTSD severity. **Methods:** This study was registered with the International Prospective Register of Systematic Reviews (#CRD42020184237). Studies were eligible for inclusion if: 1) randomized control trial or cohort study 2) used a single or multiple ketamine infusion(s) as intervention 3) Studies using another treatment for PTSD, to which (2) is added 4) PTSD symptoms are measured at pre-infusion baseline and up to at least 40 minutes after infusion using a valid PTSD symptom measurement scale 5) Study included 5 or more patients. The primary outcome was first measured PTSD symptom severity after completion of treatment. Risk of bias in included studies was assessed using the NIH Quality Assessment Tool (Possible grades: good, fair, poor). Meta-analysis using a fixed effects model was performed on pre-to-post changes in PTSD severity within ketamine treated patients and to compare ketamine to control outcomes. **Results:** Through 5 databases, we identified 526 unique studies that underwent title/abstract review by two investigators. After full text review of 64 studies, six articles met inclusion criteria. These six articles included three randomized controlled clinical trials and three cohort studies. The studies were found to be of fair to good quality. Meta-analysis of all studies (n=103 patients) revealed that ketamine infusion reduced PTSD symptom severity substantially (standardized difference pre-to-post: 1.66, 95% confidence interval 1.33 – 1.98,  $P < .001$ ). Analysis restricted to the three controlled trials (n=47 patients treated with ketamine; n=44 control) indicated that PTSD symptom severity was lower at first outcome measurement in ketamine treated than control patients (standardized difference size 0.64, 95% confidence interval 0.21 – 1.06,  $P = .003$ ). **Conclusion:** Studies with fair to good quality indicate that subanesthetic ketamine infusion likely reduces PTSD symptom severity substantially shortly after treatment. Future longitudinal trials need to investigate long-term effectiveness of ketamine infusion for PTSD.

**No. 94**

**NYX-783, a Novel Positive Allosteric Modulator of the N-Methyl D-Aspartate Receptor, Facilitates Extinction Learning in PTSD-Relevant Mouse Models**

*Poster Presenter: Katie Leaderbrand, Ph.D.*

*Lead Author: Boyoung Lee, Ph.D.*

*Co-Authors: Santosh Pothula, Ph.D., Amanda Barth, Ph.D.*

**SUMMARY:**

Post-traumatic stress disorder (PTSD) is a neuropsychiatric disorder that develops in approximately 6% of individuals that experience or witness a traumatic or life-threatening event. Pharmacological treatment options for PTSD are limited, and some symptoms remain resistant to treatment in a substantial number of patients (Abdallah 2019). After an inciting trauma, N-methyl D-aspartate receptor (NMDAR) hypofunction in brain regions like the prefrontal cortex (PFC) results in a loss of synaptic connectivity necessary for the cognitive control of emotion; these changes are implicated in the development and maintenance of PTSD (Abdallah 2019; Krystal 2017; Dahlgren 2018). Therefore, those with PTSD have difficulty reducing their fear response to stimuli that are no longer an indication of danger. In the present study, auditory fear conditioning (AFC) and single-prolonged stress (SPS) in mice were used to model PTSD-relevant extinction learning. NYX-783, an orally bioavailable small molecule that positively modulates NMDAR activity, significantly inhibited the spontaneous recovery of learned fear in both models, even when fear extinction was impaired by prior stress. NYX-783 has a unique NMDAR subtype binding profile; thus, additional studies were conducted to determine whether specific NMDAR subtypes on either principal cells or interneurons of the PFC were necessary for the efficacy of NYX-783. The inhibition of spontaneous recovery of learned fear by NYX-783 was blocked by a viral-mediated knockdown of the GluN2B subunit (NMDAR2B) in neurons, but not interneurons, in the infralimbic PFC (IL-PFC). Additionally, an NMDAR2B-dependent increase in BDNF following administration of NYX-783 was found to mediate the inhibitory effect on NYX-783 on spontaneous recovery of learned fear. We hypothesize that NYX-783 improves cognitive control

of emotions to maintain a reduced response to previously fearful stimuli by enhancing NMDAR2B-mediated synaptic plasticity in the IL-PFC. These findings are significant as they suggest a putative mechanism of action for NYX-783 for the alleviation of PTSD-relevant symptoms. NYX-783 is currently in Phase II clinical development for the treatment of PTSD. In a completed Phase II clinical study, subjects receiving NYX-783 showed clinically meaningful improvements in multiple parameters used to assess PTSD symptoms, including the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5), after only 4 weeks of treatment. This study was supported by Aptinyx Inc.

**No. 95**

**The Effect of Reminder Focused Positive Psychiatry Suicide Safety (RFPP-S) on COVID-19 Related Posttraumatic Stress Disorder With Grief**

*Poster Presenter: Naser Ahmadi, M.D., Ph.D.*

**SUMMARY:**

**Objectives:** The Coronavirus (COVID-19) pandemic is a global public health crisis and the source of enormous stress and widespread bereavement for individuals and communities, with an increased rate of COVID-19 related Posttraumatic Stress Disorder (PTSD) and Prolonged Grief Disorder (PGD). PGD is prevalent and associated with increased psychiatric comorbidities and suicidality. This study investigates the effect of Brief Reminder-Focused Positive Psychiatry and Suicide-Prevention (RFPP-S) in youth with COVID-19 related PTSD and PGD. **Methods:** 41 consecutive adolescents (ages 14±4 years, 60% female) with COVID-19 related PTSD and PGD with SI received RFPP-S at the psychiatry-emergency-room (PER). RFPP-S consisted of 10-minute behavioral-modules, in 2 consecutive-days, on self-compassion, engagement, resilience, gratitude for traumatic/loss reminders with emotion regulation, distress tolerance, and safety planning skills. **Results:** The prevalence of PER visits among children with PTSD and its associated suicidality was 61% in 2020. That constitutes 40% with COVID-19 related PTSD, with the presence of grief symptoms in over 90%. Logistic regression analysis showed a significant increase in PER visits of adolescents with COVID-19 related PTSD and Grief with suicidality, with 50% of adolescent

PER visits attributable to COVID-19 related PTSD and Grief with related suicidality. There was a significant reduction in Columbia suicide severity rate scale (C-SSRS), persistent complex bereavement disorder (PCBD) checklist, and PTSD reaction index in response to RFPP-S. Furthermore, RFPP-S is associated with an increase in wellbeing, resilience, parent-child interaction, school performance, post-discharge follow-up, and no PER visit/psychiatric-hospitalization 4-week after discharge. Conclusions: There is a significantly increased rate of PER visits in adolescents with COVID-19 related PTSD and Grief with suicidality, compared to those without PTSD, with 50% of such visits attributable to COVID-19 related PTSD and Grief with suicidality. RFPP-S is associated with reducing PTSD and grief symptoms, acute psychiatric stabilization, parent-child interactions, and favorable outcome in youth with COVID-19 related PTSD and PGD

#### **No. 96**

##### **An Innovation Model to Provide Mental Health Treatment to Medical Students: Lessons Learned From the COVID 19 Pandemic**

*Poster Presenter: Nathaly Shoua Desmarais, Psy.D.*

#### **SUMMARY:**

Medical students mental health profiles are similar to non medical students prior to starting medical school. During the pre-clinical years, medical students experience pressure to succeed and the ongoing need to compete with others. During the clinical years, medical students are exposed to stressors related to the practice of medicine, including patients with complex health issues, unpredictable schedule demands, and potential grief. An overarching stressor for medical students is the amount of debt each year of training adds to their overall debt. In addition to the traditional stressors faced by medical students, the past year and a half added a new layer of facing these stressors in the mist of a deadly pandemic. Prior to the pandemic and despite all these understandings, mental health is still seldom sought by these individuals. Major barriers to help-seeking behaviors among medical students include time constraints, cost, confidentiality, and most important stigma. In the context of the COVID 19 pandemic, the

importance of mental health has been a point of discussion across all domains. With the push for tele-health services, which is the implementation of digital devices, web-based interventions, and other communication technologies to provide services remotely, as the only modality to deliver mental health services for a time, we found more medical students at our institution accessed mental health services than the prior years. Prior to the pandemic, the total utilization rate for medical students seeking mental health services was 55%. With the opportunities of providing tele-health services the rate increased to 65%, a 10% increase. When students were surveyed regarding the reasons they sought services now, 85% reported the ease of accessibility and the trust in confidentiality given that students did not have to go to a physical location. The percentage of first year medical students accessing mental health services within the first 3 months of training prior to the pandemic was 30%. The percentage of first year medical students accessing mental health services during the pandemic and within the first 3 months of training was 43%. These findings reveal the importance of counseling centers to provide tele-health services even when institutions return to pre-COVID functionality. It is imperative that medical institutions provide not only mental health services to their students, but provide alternative ways to deliver these services to tackle the traditional barriers of help seeking behaviors.

#### **No. 97**

##### **What to Expect When You're Expecting: Perceptions of Postpartum Depression Among Low-Income Mothers and Families in Mumbai, India**

*Poster Presenter: Raghu Kiran Appasani, M.D.*

#### **SUMMARY:**

**Background:** Postpartum depression (PPD) is a psychiatric illness that can present both as an antenatal and / or a postnatal condition. It is one of the post-partum psychiatric disorders that negatively affects the mother, infant and the family. Despite a high prevalence of postpartum depression identified in research literature, PPD fails to receive the desired clinical attention. This study aimed to assess the awareness and attitude towards postpartum

depression among pregnant mothers and their relatives at a government hospital in Mumbai, India.

**Methodology:** 106 participants, of which 46 were pregnant mothers admitted in the antenatal and postnatal care wards along with 60 of their relatives who were present with them at the hospital. A questionnaire assessing the awareness and attitude towards postpartum depression was developed and validated by expert opinions (AD & NS). Most questions were to be answered in yes / no whereas some questions also recorded responses from participants to get an idea of their understanding. A backward and forward translation of the scale was done from English to Hindi and administered to the pregnant women and their relatives. The data was analysed using descriptive statistics. 57 (95%) of the relatives and 42 (91.4%) of pregnant had not heard the term postpartum depression. Participants were asked whether pregnant women could experience mental health problems, in response, 38 (63.4%) of relatives agreed that pregnant women could experience mental health problems whereas 21 (54.4%) mothers agreed to the same. When asked if it was possible that the mental health of a woman is affected after pregnancy, 34 (56.7%) relatives and 19 (58.7%) mother said yes. **Conclusion:** The findings suggest that there is a need for greater awareness of the phenomenon of postpartum depression among patients and their family members. Further studies are needed to generalise the findings of this survey.

#### No. 98

##### **The Present and Future of Warmi: The Network of Professionals Working for Women's Mental Health in Latin America**

*Poster Presenter: Pamela Carolina Montano, M.D.*

*Lead Author: Ruby C. Castilla Puentes, M.D.*

*Co-Author: Ana Maria Saavedra Sanchez*

#### **SUMMARY:**

Background: The mental health status of women in Latin America (LA) depends on several social determinants including access to health, education, work, and exposure to violence, all of them associated with gender inequity. Mental health problems of women during reproductive age in LA are a serious but under-recognized public health problem, impacting maternal, infant and child health

infant morbidity and mortality. Objectives: Although advances have been made in the improvement of mental health of women in LA in the last decades, the modernization of systems and the integration of new resources requires us to create new projects. WARMI (Woman in Quechua-Aymara), a network of professionals, arises from the need to integrate and improve communication between the people who work to promote mental health of women in LA and globally. Methods: Through a well-established structure, WARMI offers a common platform using social media as a new resource, increasing the possibility of shared projects by avoiding silos that decrease productivity. Professionals from various specialties (e.g. psychiatry, psychology, nursing, sociology, advocacy groups, public and private institutions in LA) who advocate for the women's lives, health, access to work, education, autonomy, reproduction, relationships, violence, discrimination among others topics, have joined in a multidisciplinary project. Results: A total of 682 professionals from 40 different countries were active in WARMI's network to December 2020. They include: physicians, psychiatrists, psychologists, nurses, ob-Gyns, administrators, nutritionists, educators, lawyers, epidemiologists, therapists and social workers. Almost 25% of the active members of WARMI work in private practice initiatives, 12,5% work in the area of education and teaching, followed by 8% with own clinical practice, 7% in research, 6% in government and 2-3% work in the health and technology of the media. WARMI also reported progress in its organizational structure including more active members and professional women in leadership position. It collaborated with 10 national, regional and international institutions. Conclusion: Effective multidisciplinary participation and working with women in different countries is essential to improve women's mental health. In this poster presentation, we will provide the rationale for the creation of WARMI, its structure and development, and the future direction of this network of professionals dedicated to improving mental health of women in the region.

#### No. 99

##### **"It's a Girl!": Improving Pregnancy Testing Frequency in the Emergent Psychiatric Setting**

*Poster Presenter: Souparno Mitra, M.D.*

*Co-Authors: Maria Alejandra Gallo Ruiz, M.D., Kiran Jose, M.D., Lucia Roitman*

**SUMMARY:**

Introduction About 15% of pregnant women have a psychiatric illness and 10-13% of fetuses are exposed to a psychotropic drug. Bipolar disorder recurred in 81-85.5% of pregnant women who discontinued their mood stabilizers compared with 29-37% of those who did not. About 50% of patients with schizophrenia relapse if they stop taking their drugs, however exposure to psychotropic drugs might have significant affect on the fetus - for example - the use of Lithium during pregnancy has been associated with congenital cardiac malformations, fetal and neonatal cardiac arrhythmias, Despite these significant implication, previous research shows relatively low frequency of pregnancy testing in emergency room, for example – research from 2015 reviewing an estimated 10.1 million ED visits by reproductive aged women showed that among patient visits where category D or X medications were prescribed only 22.0% had pregnancy testing. For Category X specifically, 33.7% had pregnancy testing. Materials and Methods We reviewed 5 months of admissions to our hospital Comprehensive Psychiatric Emergency Program, identifying admissions of women in in the age group of 12-54. We collected demographic data and characteristics of their admission including information such as age, race, primary diagnosis, type and time of pregnancy testing, medication prescribed and time of prescription. We determined several interventions aiming at improving the frequency of pregnancy testing including creating reminder labels, creating order sets and conducting academic activity to increase awareness to the teratogenic effects. Impacts of our intervention will be studied in Phase II of our study Results reviewed 770 admissions to the psychiatric inpatient unit from December 1st 2020 to May 17th 2021. 189 Admissions were of women of reproductive age - 12-54 years old. From 189 admissions we identified 25 admissions (13%) who did not have a pregnancy test done throughout admission: 21 had no pregnancy ordered throughout their admissions and 4 had a pregnancy test ordered in CPEP that was not collected. From the 25 admissions with no pregnancy test, 8 patients (32%) were of women

ages 12-17 and 9 patients (36%) were of women ages 50-54. 68% of women without pregnancy test were Hispanic. 24% of them had a primary diagnosis of MDD and same percentage had a diagnosis of schizoaffective disorder. Discussion Administering psychotropic medication to pregnant women might have significant affect on their fetus. Testing patients in reproductive age for pregnancy allows clinicians and patients to make data-informed decisions regarding the use of psychotropic medications. We will review the effect that our interventions had on the frequency of pregnancy testing in the emergency setting and accordingly assess further interventions required and make recommendations for other clinicians.

**No. 100  
Psychotropic Medication Prescribing Hesitancy  
Among Outpatient Women's Health Providers**

*Poster Presenter: Amanda Rubano*

*Co-Authors: Marika Toscano, George S. Nasra, M.D., Ellen Poleshuck*

**SUMMARY:**

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**No. 101  
Using Social Rhythm Therapy to Reduce Emotional,  
Mood and Anxiety Symptoms and Suicide Risk in  
Adolescents and Young Adults With Bipolar  
Disorder**

*Poster Presenter: Jihoon A. Kim, M.D., M.Sc.*

*Co-Authors: Anjali Sankar, Ph.D., Priyanka Panchal, D.Phil., Holly A. Swartz, M.D., Hilary P. Blumberg, M.D.*

**SUMMARY:**

**Background:** Disruption of daily rhythms (DRs) is linked to emotion dysregulation, mood symptoms, and suicide risk among individuals with bipolar disorder (BD). We have designed a psychobehavioral intervention program, Brain Emotion circuitry-targeted Self-Monitoring And Regulation Therapy-DR (BE-SMART-DR), to target these symptoms by regularizing DRs in adolescents and young adults with BD using a Social Rhythm Therapy (SRT) modified for telehealth use in adolescents. We investigated BE-SMART-DR-related changes in DRs,

emotional tendencies, reactivity and regulation, mood and anxiety symptoms, and suicide risk. We also aimed to explore correlations between improvements in these behavioral and symptom domains to develop a model of how regularization of DRs reduces suicide risk. **Methods:** Data acquired before and after completion of BE-SMART-DR in 14 adolescents and young adults with BD (ages 16-24 years) included measures of change in DRs (Brief Social Rhythm Scale; BSRS), tendency to experience positive and negative affect (Positive and Negative Affect Schedule; PANAS-SF), emotion reactivity (Emotion Reactivity Scale; ERS, total and subscale score for emotion sensitivity), emotion dysregulation (Difficulties in Emotion Regulation Scale; DERS), depressive (Hamilton Depression Rating Scale; HDRS), manic (Young Mania Rating Scale; YMRS) and anxiety (Beck Anxiety Inventory; BAI) symptoms, and suicide propensity (Concise Health Risk Tracking Scale). Analyses were performed to identify changes in assessment scores and the correlations between them. **Results:** From before to after BE-SMART-DR, there were significant reductions ( $p$ -values $<0.05$ ) in BSRS, PANAS-SF Negative, ERS Sensitivity, DERS, HDRS, YMRS, BAI and CHRT. Improvement in BSRS had a significant correlation with improvement in CHRT, even when controlling for HDRS and YMRS ( $r=0.73$ ,  $p=0.007$ ). Improvement in BSRS was significantly associated with improvement in ERS Sensitivity Subscale ( $r=0.74$ ,  $p=0.003$ ) and DERS ( $r=0.64$ ,  $p=0.01$ ). Improvement in CHRT was also significantly associated with improvement in DERS ( $r=0.77$ ,  $p=0.001$ ), as well as ERS ( $r=0.79$ ,  $p=0.001$ ). **Conclusion:** The findings provide preliminary evidence suggesting the effectiveness of BE-SMART-DR in reducing irregularity of social rhythms, tendency to experience negative affect, excesses in emotional sensitivity and reactivity, emotional dysregulation, depressed and elevated mood symptoms, anxiety symptoms, and suicide propensity in adolescents and young adults with BD. Initial findings also suggest that improved social rhythm regularity may reduce suicide propensity through effects on emotional sensitivity and regulation, that may not be dependent on overall changes in mood. Taken together, the findings support telehealth SRT as a psychotherapeutic strategy to improve mood and anxiety symptoms,

and to reduce suicide propensity by improving emotional sensitivity and regulatory processes.

#### No. 102

#### Introducing Team-Based Care May Optimize Psychotropic Medication Prescription Among Outpatient Women's Health Providers

*Poster Presenter: Amanda Rubano*

*Co-Authors: Marika Toscano, George S. Nasra, M.D., Ellen Poleshuck*

#### SUMMARY:

**Purpose:** To assess whether a team based care (TBC) setting would provide better support for women's health providers (WPs) in prescribing psychotropic medications to address unmet behavioral health (BH) needs of their patients. **Background:** Rapid expansion of BH screening in outpatient women's health offices has resulted in improved detection of mood and anxiety disorders, however WPs have limited training and experience in the diagnosis and treatment of BH conditions, and they often face significant challenges when trying to refer their patients to specialty BH care. The current study sought to understand how WPs might perceive proposed support from TBC to assist them in optimizing prescribing appropriate psychotropic medication therapy for their patients. **Methods:** Retrospective cohort study of general or subspecialty outpatient WPs employed by a single tertiary care center in New York. After IRB approval, an anonymous, voluntary online survey was distributed via email in July 2018 asking WPs to self-rate their likelihood of prescribing psychotropic medications on a Likert scale. WPs responded to prescribing independently versus prescribing in a proposed TBC model that incorporates actively consulting with a primary care physician, psychiatrist, or other specialist. Chi square/Fischer's exact tests and odds ratios were used to compare groups. **Results:** Of 122 eligible WPs, 57 completed the survey (response rate: 47%). Subjects were majority physicians (70.2%) and most worked in general OBGYN clinics (56.0%) (Table 1). When prescribing independently, WPs reported significantly lower likelihood to prescribe mood stabilizers, benzodiazepines, antipsychotics, and hypnotics as compared to SS/NRIs in both

pregnant/lactating patients and non-pregnant/lactating patients (Table 2). WPs reported that increased access to proposed TBC would significantly increase the odds that they would prescribe these non-SS/NRI classes of psychotropic medications (Table 3/Figure 2). **Discussion:** In response to a proposed TBC model, WPs reported higher likelihood to prescribe psychotropic medications to both OB and GYN patients. WPs are limited in training, experience, and scope of practice in prescribing psychotropic medications and psychiatrists may be less familiar prescribing these medications in pregnant and lactating women. A TBC bridges the gap in meeting the behavioral health needs of reproductive age women because it allows open communication and consultation between specialists to provide necessary care. Future work is needed to implement and test TBC to determine if this resource may change prescribing practices among WPs to better meet the needs of their patients.

## Poster Session 8

### No. 1

#### **Resident Physician Attitudes Toward the Use of a Digital Tool to Assess and Improve Burnout**

*Poster Presenter: Julia Tartaglia, M.D.*

*Co-Authors: Khatiya Chelidze Moon, M.D., Daniel Adler, Emily Tseng, Tanzeem Choudhury*

#### **SUMMARY:**

**Background:** Resident physician burnout is a widespread problem with impacts on physicians, patients, and health systems [1-3]. Innovative approaches are needed to assess and promote wellbeing among residents. Technology has potential to aid this effort by enabling passive monitoring, assessment of burnout indicators, and personalized interventions. We aimed to assess resident and supervisor understanding of the nature of trainee burnout, possible indicators of burnout, and attitudes towards the use of a digital tool for wellbeing measurement. **Methods:** We conducted semi-structured individual and focus group interviews of residents and attending physician supervisors at a psychiatry residency training program. Participants were shown a mock-up of a

digital tool containing residents' hypothetical sleep and activity data, as well as burnout self-report measures, and were asked about their reactions to the tool. Interviews were transcribed; individual utterances were iteratively coded and grouped into themes which eventually showed a comprehensive picture of the data. **Results:** Three themes emerged across 15 interviews with 22 subjects. First, trainees and supervisors supported existing definitions of burnout as emotional exhaustion, depersonalization, and low sense of personal accomplishment, but were ambivalent about their role in assessing burnout or promoting wellbeing. Second, trainees and supervisors admitted a lack of knowledge of best practices for the assessment of wellbeing, relying largely on informal discussions; measurable indicators were poorly defined. Third, trainees and supervisors felt a digital tool could promote discussions about wellbeing but was unlikely to replace the need for them. **Conclusions:** Our data suggests that although there is agreement on what burnout is, there is a lack of clarity around whether, how, and by whom wellbeing should be assessed. The introduction of a digital tool in this context is thus premature and should be preceded by the collaborative definition and transparent implementation of best practices for the assessment and promotion of wellbeing among trainees. Our data also suggests the need for parallel research on the role a digital tool might play in support of trainee wellbeing.

### No. 2

#### **Educating Trainees About Measurement-Based Care: Findings From a Scoping Review.**

*Poster Presenter: Karen Wang, M.D.*

*Co-Authors: David Eli Freedman, M.D., Alexander Bourdon, M.D.*

#### **SUMMARY:**

**Background** Measurement-based care (MBC) involves the routine use of standardized, validated symptom rating scales to guide patient care decisions cooperatively. Despite evidence supporting MBC's effectiveness for enhancing care outcomes and MBC's acceptability to patients, as well as it being supported by several leading professional organizations (such as the American Psychiatric



Association), it is infrequently and inconsistently utilized by clinicians. It has been posited that a relative lack of comprehensive foundational training on MBC is a significant barrier to the integration of MBC into future clinical practice. Yet, little is known about the available literature on MBC education.

**Goals or Intention** The goal of this scoping review is to survey MBC educational initiatives for mental healthcare trainees, in order to ascertain what is known about this process of integrating MBC into a larger educational curriculum. Learners include, but are not limited to those enrolled in programs for medicine, social work, psychology, or psychotherapy. From this review, we specifically hope to describe the structures, methods, and outcomes of MBC educational programs. We will also identify gaps in the literature. **Description of Project** From a search of five electronic databases, we identified 2373 records, and removed 1205 duplicates. We screened the titles and abstracts of the remaining 1168 records, ultimately including 28 articles for full-text screening. From these texts, we excluded 21 records, with 7 articles included in data extraction.

Afterward, we checked the reference sections of selected studies and looked on Google Scholar for relevant papers that cited these articles.

**Impact/Issues so far** The included articles were written between 2013 to 2021, most from the United States of America (6/7), and mostly empirical studies (4/7), as well as 2 quality improvement intervention studies, and 1 case study. Programmes involved a variety of teaching modalities, such as lectures, in-service training, and coaching/supervision. Trainees were from diverse disciplines, such as medicine, psychology, social work, psychotherapy, and nursing. Programme outcomes included reactions, attitudes, behavioural changes, and changes in organizational practices, and these outcomes were affected by several identified facilitators and barriers. We hope that the results from this scoping review will aid educators in developing local curricula and support the creation of national MBC educational competencies.

### No. 3

#### **Disparities in Naloxone Prescriptions During the COVID-19 Pandemic**

*Poster Presenter: Li Li, M.D., Ph.D.*

#### **SUMMARY:**

**Introduction:** Prescribing naloxone to patients at high risk of opioid overdose is effective in the prevention of fatal opioid overdose. Per the CDC, it is estimated more than 90,000 opioid overdose deaths occurred in the United States (US) from September 2019 to September 2020, the highest number recorded in a 12-month period at the time. However, it is unclear whether naloxone prescribing also increased or otherwise fluctuated in this time. We sought to assess and compare the naloxone prescribing rate at a tertiary medical center in 2019 and 2020, as it pertained specifically to patients diagnosed with opioid use disorder (OUD). **Methods:** A cross-sectional, retrospective chart review was performed on patients with OUD from January 2019 through December 2020 at the University of Alabama at Birmingham Hospital, inclusive of outpatient, inpatient and emergency department (ED) settings. Naloxone prescribing, defined as either a written prescription or a provided take home kit, was assessed for all patients who presented to the hospital between January 2019 through December 2020. Patient demographic characteristics, marital and insurance status, were also obtained. Analyses were performed using descriptive statistics and Chi-square analysis. **Results:** In 2019, 11,959 visits were made by 2,962 unique patients with OUD, compared to 11,661 visits from 2,641 patients in 2020. Six hundred nine naloxone prescriptions in 2019 (5.1%) and 619 in 2020 (5.3%) were provided to these patients. In both years, most OUD-related visits were from whites (n=4,253, 75.9%), unmarried individuals (n=4,102, 73.2%), and males (n=2,870, 51.2%). Similarly, most naloxone prescriptions were given to whites (n=934, 76.1%), unmarried individuals (n=920, 74.9%), and males (n=651, 53.0%). Naloxone prescriptions were largely given to patients with public health insurance (n=546, 44.5%). Most OUD-related visits were in the outpatient (n=1,987, 35.5%) or ED (n=2,202, 36.1%) settings, although inpatient encounters had the highest number of naloxone prescriptions (n=666, 54.2%), which increased from 2019 to 2020 (282 to 384).

**Conclusion:** Naloxone prescribing rates are extremely low as compared to the number of visits from patients with OUD, with no significant change in prescribing between 2019 and 2020. These findings may indicate the need for improved

provider naloxone awareness and prescribing for patients at risk for opioid overdose, particularly in ED and outpatient settings.

#### **No. 4**

##### **Evolution of Drug Diversion During COVID-19 Pandemic**

*Poster Presenter: Arun Ram*

*Co-Authors: Claude Abdallah, Jennifer Wohl*

##### **SUMMARY:**

Drug diversion is a permanent health problem involving the transfer of any legally prescribed controlled substance from the individual for whom it was intended to be prescribed to another person for any illicit use. Drug diversion most commonly occurs in outpatient setting where they are prescribed the most and this is a well-documented problem. To reduce the occurrence of pharmaceutical diversion by doctor shopping and prescription fraud, almost all states have established prescription monitoring programs that facilitate the collection, analysis, and reporting of information regarding pharmaceutical drug prescriptions. In early 2020, US Drug Enforcement Administration (DEA) relaxed the requirement of a separate DEA registration in each state where the practitioner dispenses controlled substances. In addition, DEA further made some concessions allowing satellite clinics without DEA registration to receive controlled substances on an expedited basis. And these exceptions were granted through the duration of this pandemic. Similar relaxations made at workplaces during the COVID-19 pandemic can increase the risk of drug diversion in hospitals, along with changes in pharmacy and patient care policies made further to the pandemic may enhance opportunities to divert controlled drugs. Drug diversion may be due to one or a combination of external or internal factors such as physical pain, chronic pain, Substance Use Disorder (SUD) and prevention of withdrawal, loss of income or lifestyle choices, and mental distress. The physical, emotional, and financial toll of COVID-19 on the public, and especially health workers cannot be overstated. The additional acute and/or chronic distress created by COVID-19 has increased the risk and motivation to commit drug diversion. A rapid growth of addiction telemedicine during this

pandemic has the potential to further impact drug diversion rates. We reviewed the available literature describing the effects of COVID-19 pandemic on drug diversion, analyzed Prescription Monitoring Program annual reports of select states for a period of 18 months before and 18 months into the pandemic to present the evolving trends in drug diversion and the effect of behavioral components and psychological pressure in addition to other factors that aid and abet drug diversion.

#### **No. 5**

##### **Non Invasive Brain Stimulation for Cocaine Use Disorder (CUD): A Systematic Analysis**

*Poster Presenter: Suneeta Kumari, M.D.*

*Co-Authors: Jayasudha Gude, M.B.B.S., Ramon Solhkhah, Saba Afzal, Stacy Doumas*

##### **SUMMARY:**

**Introduction:** Cocaine was involved in nearly 1 in 5 overdose deaths during 2017, drug overdose deaths involving cocaine increased by more than 34%, with almost 14,000 Americans dying from an overdose. In 2020, the prevalence of cocaine use among 8<sup>th</sup> to 12<sup>th</sup> graders was found to range from 0.5-2.9% in the previous year. There are currently no FDA-approved treatments for Cocaine Use Disorder (CUD). Noninvasive brain stimulation (NIBS) has shown promising results in the treatment of substance use disorders. In this study, we thus investigated if NIBS (including rTMS, dTMS) can help in reducing cocaine use among individuals with cocaine use disorders. **Methods:** We searched PubMed using the keywords “brain stimulation” and “cocaine use disorder” for studies from inception till date. Out of 340 studies, 22 relevant studies were reviewed and final 13 studies were included which met the inclusion criteria. The inclusion criteria were patients having cocaine use disorder and receiving either rTMS (repetitive transcranial stimulation), iTBS (intermittent theta burst stimulation), in the dorsolateral prefrontal cortex (DLPFC) or Prefrontal cortex (PFC). Primary Outcomes were measured using cocaine craving questionnaire, cocaine intake and craving-related visual analog scores which were assessed at baseline (T1) and 4 wks. after completion of TMS treatment (T2). Data was reviewed using the Preferred Reporting Items for Systematic Reviews

and Meta-Analysis (PRISMA) protocol. **Results:** Out of 13 studies, six studies reported using rTMS of DLPFC, five studies used rTMS of PFC, one study used iTBS of PFC and one used iTBS of DLPFC. The mean score in the cocaine craving questionnaire were observed to be significantly reduced 4 wks. after the treatment (Mean T1 27.12 + 40.32, T2 9.6 + 25.5). One study showed there was a significant difference in cocaine craving scores, i.e. craving was significantly lower in the rTMS group vs. controls [ $F(1,27)=4,7379$ ,  $p=0.038$ ]. One study ( $n=284$ ) conducted a long-term follow up and the median time to the first lapse of cocaine use after TMS treatment was found to be 91 days. Cocaine intake assessed by post hoc comparisons also showed a significant reduction in the amount of cocaine detected from the onset to 3 months later ( $T0-T2$ ;  $p=?0.02$ ) and to the end of treatment ( $T0-T3$ ;  $p=?0.01$ ) in. This study did not examine if there were any differences between treatments with rTMS vs iTBS vs dTMS and the regions of stimulation DLPFC vs PFC which is a limitation. **Conclusions:** The present findings support the therapeutic role of NIBS interventions for reducing cocaine use. However, more double-blind, sham-controlled studies with a larger sample sizes, multiple and long-term follow up are needed, in order to confirm the potential benefits of this technique.

## No. 6

### **Ketamine for Major Depressive Disorder Among Adolescents—a Review and Analysis**

*Poster Presenter: Jayasudha Gude, M.B.B.S.*

*Co-Authors: Suneeta Kumari, M.D., Ramon Solhkhah, Saba Afzal, Vedavani Tiruveedhula*

#### **SUMMARY:**

**Objectives:** According to National Institute of Mental Health, an estimated 3.2 million adolescents aged 12 to 17 in the United States had at least one major depressive episode in 2019. In adults, many studies highlighted ketamine's role in improving depressive symptoms. We thus conducted a guideline-based systematic review testing the efficacy of ketamine in the treatment of depressive symptoms among adolescents. **Methods:** We searched PubMed using the keywords "ketamine" and "depression or Major depressive disorder or depressive disorders" and

"adolescents" for studies from inception till date. Out of 1320 studies, 46 relevant studies were reviewed and final two studies were found which studied the efficacy of ketamine for depression among adolescents. The inclusion criteria were participants had to have a primary DSM-5 diagnosis of major depressive disorder and have a score = 40 on the Children's Depression Rating Scale-Revised (CDRS-R). Adolescents also must have failed to benefit from at least one prior 8-week trial of a standard antidepressant medication in order to be considered treatment-resistant. Exclusion criteria were a lifetime history of any psychiatric illness requiring inpatient hospitalization. Primary Outcomes were measured using the Montgomery Asberg Depression rating scale (MADRS) and Children's Depression Rating Scale-Revised pre-infusion and 24 hours post infusion. Data was extracted following Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines with the consensus of two independent reviewers. The combined mean and standard errors were obtained. **Results:** Of the two studies, one study was an open-label study that included 13 subjects and offered six serial infusions of intravenous ketamine, given over 2 weeks. The other study was a randomized, double-blind, single-dose crossover clinical trial, 17 adolescents (ages 13–17) with a diagnosis of major depressive disorder received a single intravenous infusion of either ketamine (0.5 mg/kg over 40 minutes) or midazolam (0.045 mg/kg over 40 minutes), and the alternate compound 2 weeks later. Both studies have shown a marked improvement in the mean MADRS and CDRS –R scores 24 hrs. Post infusion [MADRS 16.76 (10.68) CDRS-R 42.08 (16.78)] compared to baseline. [MADRS 31.84(7.8) CDRS –R 63.50(15.10)]. It was observed that participants showed a greater response on the MADRS 1 day after they received ketamine compared to 1 day after midazolam or baseline. Major Limitation was only two studies are included in the analysis. **Conclusions:** Current analysis showed that ketamine has a significant effect in reducing acute depressive symptoms among the adolescent age group. However, there are only two studies so far, more studies with larger sample sizes, multiple infusions, and long-term follow-up are needed in the future.

## No. 7

### Trends in Predictors of Mental Health Service Use Among Youth and Emerging Adults in Canada

Poster Presenter: *Thipiga Sivayoganathan, M.Sc.*

Co-Author: *Graham Reid, Ph.D.*

#### SUMMARY:

**Objective:** Despite the globally high prevalence of mental disorders among youth (age 12 to 17) and emerging adults (18 to 24), a minority of this population report receiving mental health (MH) services. Examining changes in predictors of MH service use over time can provide information on who is, and is not, able to access MH services and identify areas for additional investment of resources to create a more effective mental healthcare system today. We examined trends in predictors of MH service use in this age group using population-level data in Canada. **Methods:** Secondary data analyses were conducted on six cycles of the Canadian Community Health Survey (2011-2016), a nationally representative survey on health-related issues. The outcome, MH service use, was examined using a single Yes-No item that assessed receipt of any form of MH services in the previous year. Predictors, organized based on Andersen's Behavioral Model, included: predisposing characteristics (e.g., age, sex, education, ethnicity), enabling resources (i.e., income distribution), need for care (e.g., self-rated MH, diagnosis of anxiety/depression). **Results:** Across the six years analyzed, sample size ranged from N= 5670 (2016) to N= 7474 (2011). Mean age was 18 years; about half (50.3% - 52.1%) were male, and most were students (70.3% - 73.5%). Most respondents were Caucasian (67.7% - 75.0%) followed by East and Southeast Asian (8.2% - 11.5%). Significant predictors across all six models/cycles included two predisposing factors: sex and ethnicity, and three need for care factors: self-rated MH status, self-report mood disorder, and self-report anxiety disorder. Across all cycles, females were consistently more likely to use MH services than males (OR range: 1.59-2.07). Caucasians had higher odds of using MH services, compared to East and Southeast Asian groups (OR: 0.14-0.45) and South Asian groups (OR: 0.19-0.45), though, significant differences varied across years. Lower self-rated MH status (OR:1.62-2.10) and presence of a mood (OR:3.34-8.21) or anxiety disorder (OR: 3.54-6.80)

significantly increased likelihood of MH service use in all models. **Discussion:** Predictors of MH service use have been relatively stable from 2011 to 2016. While need for care variables were strong predictors of MH service use, some predisposing characteristics (e.g., being female or Caucasian) remained a significant predictor after accounting for need for care factors across time. These findings highlight the need for increased efforts to improve MH service provision and outreach for males and specific ethnic minority groups.

## No. 8

### Anxiety Disorders and Age-Related Changes in Physiology

Poster Presenter: *Julian Mutz*

Co-Authors: *Chiara Fabbri, Thole Hoppen, Cathryn Lewis*

#### SUMMARY:

**Background** Anxiety disorders are leading contributors to the global disease burden,<sup>1</sup> highly prevalent across the lifespan,<sup>2</sup> and associated with substantially increased morbidity and early mortality.<sup>3</sup> The aim of this study was to examine age-related changes across a wide range of physiological measures in middle-aged and older adults with a lifetime history of anxiety disorders compared to healthy controls. **Methods** The UK Biobank study recruited more than 500,000 adults, aged 37 to 73, between 2006 and 2010.<sup>4</sup> We used generalised additive models to estimate non-linear associations between age and hand-grip strength, cardiovascular function (systolic and diastolic blood pressure, pulse rate and arterial stiffness), body composition (body mass index, body fat percentage, fat mass, fat-free mass and waist-hip ratio), lung function (forced vital capacity, forced expiratory volume in one second, FVC/FEV<sub>1</sub> ratio and peak expiratory volume) and heel bone mineral density in cases vs. controls. **Results** The main dataset included 332,078 adults (mean age = 56.37 years; 52.65% females). In both sexes, individuals with anxiety disorders had lower hand-grip strength and blood pressure than healthy controls. Their pulse rate and body composition measures were higher. Case-control differences were larger when considering individuals with chronic and/or severe anxiety disorders, and

differences in body composition were modulated by depression comorbidity status. Differences in age-related physiological changes between female anxiety disorder cases and healthy controls were most evident for blood pressure, pulse rate and body composition, while in males for hand-grip strength, blood pressure and body composition. Most differences in physiological measures between cases and controls tended to decrease with age increase. **Conclusion** Individuals with a lifetime history of anxiety disorders differed from healthy controls across multiple physiological measures, with some evidence of case-control differences by age. The differences observed varied by chronicity/severity and depression comorbidity.<sup>5</sup>

## No. 9

### **Use of Memantine for Autism Spectrum Disorder in an Adult Female, a Case Report**

*Poster Presenter: Matthew Gerace, M.D.*

*Co-Authors: Terrance M. Dolan, M.D., M.S., Carsen Noel Sulzer, M.D., Alesia Cloutier, D.O., M.S.*

#### **SUMMARY:**

Background: Autism Spectrum Disorder (ASD) is a pervasive neurodevelopmental disorder with varying phenotypic expressions that can cause significant social, communication and behavioral difficulties. The etiology of ASD is multifactorial, however, the exact pathology is poorly understood. It is suggested that glutamate excitotoxicity may be a contributing factor to the pathogenesis of ASD (1-3). Given the potential role of glutamate dysregulation in ASD, there is a growing body of research investigating the efficacy of Memantine, a N-methyl-D-aspartic acid (NMDA) glutamate receptor antagonist in the treatment of ASD (1-3). The current literature evaluating the effects of treating ASD with Memantine suggest positive preliminary outcomes without serious adverse events reported (1-3). However, the literature primarily evaluates the treatment effect in child and adolescent populations (1-4). There is a lack of research evaluating the treatment of ASD with Memantine in adult populations. Here we present a case of a female diagnosed with severe ASD treated with Memantine. Clinical Case: 26-year-old female with no known medical history who presented to the psychiatric

clinic for persistent anxiety with uncontrolled trichomania and difficulty in social interactions. She had no previous psychiatric treatment, no prior hospitalizations, and no medication trials. She described chronic interpersonal difficulty with more recent distress related to interactions at her work place. Family history was significant for mother diagnosed with bipolar disorder. Social history noted pervasive difficulty creating and maintaining friendships in childhood, currently living alone, and pursuing an advanced degree in engineering. While in outpatient treatment, she was diagnosed with severe ASD by an outside hospital and initiated on Memantine 5mg BID, which was then titrated to 10mg BID without side effects. Six months after initiation of Memantine, the patient joined an intramural sports team; engaged in more in social outings; and demonstrated improved social interactions in home, school, and professional settings, though she continued to endorse anxiety with some hair pulling. Discussion: Memantine is Federal Drug Administration (FDA) approved for treatment of severe Alzheimer's Disease, and has been trialed as a potential treatment in psychiatric disorders including obsessive compulsive disorder, bipolar disorder and attention-deficit/hyperactivity disorder (ADHD) (4). To date there has only been one prospective 12-week open label trial (n=17) evaluating the effects of Memantine to treat ASD in adults (4). Similar to our case, the prospective trial documented improvement in measures of autism severity, anxiety and ADHD symptoms with no serious adverse events reported (4). In conclusion more research is needed to fully elucidate the efficacy and safety of Memantine in treating ASD in the adult population.

## No. 10

### **Results of Teaching Residents Psychopharmacology Using Research Domain Criteria Instead of DSM**

*Poster Presenter: Lewis Eugene Mehl-Madrona, M.D.*

#### **SUMMARY:**

*Neuroscience is providing a contemporary basis for the criticism of conventional psychiatry. In the United States, the National Institutes of Mental Health (NIMH) has criticized the Diagnostic and Statistical Manual of the American Psychiatric Association*

(DSM) or the International Classification of Diseases (ICD) categories due to its lack of grounding in brain function and the tremendous overlap of diagnoses. The NIMH prefers Research Domain Criteria (RDC) for diagnosing mental disorders, which is based upon the idea of brain networks that serve particular functions for the organism. These networks can activate or inhibit each other as when the executive function network inhibits the default mode network (story or social brain) and vice versa. Other networks include seeking or reward system, attention network, salience network, sadness network, social belonging network, error detection network, fear network, anxiety network, and more. Psychiatric symptoms can be mapped onto dysfunctional (meaning poor connectivity) networks. This allows movement toward process-based understandings of psychiatric conditions which provides room for critical periods in development and a dynamic oscillation of symptom severity in relation to the patient being an open system embedded in an environmental context. We move toward an understanding of continua of traits that are socially constructed as abnormal at the far ends of the continuum. We no longer have distinct pathologies but rather extremes of phenomena that everyone shares. Immediately this perception can reduce the stigmatization and marginalization of people who suffer emotionally, for they are not qualitatively different from all of us, just more extreme. These networks are associated with particular neurotransmitters and rational psychiatric prescribing can be based upon the selection of the appropriate network to modify and then selecting a medication that will modify that network as selectively as possible. We present the results of teaching resident physicians to prescribe in this manner. We show that this approach renders them more comfortable to prescribe all classes of medication and more confident in their approach. We conclude that such an approach will eventually replace DSM.

#### **No. 11**

#### **Effect of Lumateperone (ITI-007) on Quality of Life and Functional Disability in the Treatment of Bipolar Depression**

*Poster Presenter: John Edwards*

*Co-Authors: Ian D'Souza, Tobie Escher, Bradford Loo, Jason Huo*

#### **SUMMARY:**

**Background:** In patients with bipolar disorder, depression symptoms are associated with greater reduction in function and quality of life than hypomania/mania symptoms. Lumateperone (LUMA), a mechanistically novel FDA-approved antipsychotic for schizophrenia, is being investigated for bipolar depression. In a recent phase 3 clinical trial (Study 404, NCT03249376) in people with bipolar I or bipolar II disorder experiencing a major depressive episode (MDE), LUMA 42-mg monotherapy significantly improved symptoms of depression compared with placebo (PBO). This analysis of Study 404 investigated the effects of LUMA on functional disability and quality of life as measured using the secondary outcome measure, the Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (Q-LES-Q-SF). **Methods:** Patients (18-75 years) with bipolar I or bipolar II disorder experiencing an MDE (Montgomery-Åsberg Depression Rating Scale [MADRS] Total score =20 and Clinical Global Impression Scale-Bipolar Version-Severity [CGI-BP-S] score =4) were randomized to LUMA 42 mg or PBO orally, once daily in the evening for 6 weeks. The primary endpoint was the change from baseline to Day 43 in MADRS Total score, analyzed using a mixed-effects model for repeated measures (MMRM) approach in the intent-to-treat population (ITT). This post hoc analysis evaluated the mean change from baseline to Day 43 in the Q-LES-Q-SF individual item scores using an analysis of covariance with last observation carried forward (ANCOVA-LOCF) in the ITT. Additional analyses were conducted to evaluate the effects of LUMA across the dimensions of the Q-LES-Q-SF. **Results:** The ITT comprised 376 patients (LUMA 42 mg, 188; PBO, 188). Patients in the LUMA 42-mg group had significantly greater improvement on MADRS Total score change from baseline to Day 43 compared with PBO (least squares mean difference vs PBO [LSMD], -4.585; 95% CI, -6.344 to -2.826; effect size vs PBO [ES], -0.56;  $P<.0001$ ). LUMA 42-mg treatment significantly improved Q-LES-Q-SF Total score from baseline to Day 43 compared with PBO (LSMD, 2.9; 95% CI, 1.15 to 4.59;  $P=.001$ ). The Q-LES-Q-SF items with the lowest mean scores at baseline in both

groups were mood, leisure time activities, and sexual drive, interest, and/or performance. By Day 43, LUMA treatment significantly improved 8 of the 14 items in the Q-LES-Q-SF ( $P < 0.05$ ). Overall life satisfaction also significantly improved with LUMA treatment ( $P = .0016$ ). The largest improvements with LUMA 42 mg compared with PBO ( $ES > 0.3$ ), were seen for the ability to function in daily life, family relationships, household activities, leisure time activities, mood, and overall life satisfaction (all  $LSMD = 0.3$ ; all  $P < .01$ ). **Conclusion:** In patients with bipolar depression, treatment with LUMA 42 mg compared with PBO significantly improved patient quality of life and functional impairment. These results support LUMA 42 mg as treatment of MDEs associated with bipolar I or bipolar II disorder in adults.

#### No. 12

##### **On the Texas-Mexico Border: Psychosocial Functioning in the Children of Bipolar Parents**

*Poster Presenter: Eden Robles, Ph.D.*

*Lead Author: Sarah L. Martin, M.D.*

*Co-Authors: Aleli Campbell, Ph.D., Luis Alvarado, M.S.*

##### **SUMMARY:**

**Objective:** 7.7 million (16.5%) children and adolescents in the US (6-17 years old) experience some type of mental disorder. Bipolar disorder is a chronic mental illness with an estimated 5% lifetime prevalence, and the illness course is associated with significant morbidity and mortality. Ethnic disparities in identification pose a serious barrier to treatment. We examined the level of functioning in Hispanic children with a parent diagnosed with bipolar disorder and compared the scores to a control group. We hypothesized that children of parents with a bipolar disorder would have more challenges in the four dimensions assessed: academic, behavioral, social and family functioning. **Method:** In a longitudinal study, we followed 164 children, adolescents, and young adults with a parent with Bipolar and compared them to a control group of 139, over the course of seven years to monitor four levels of functioning: academic, behavioral, social and family in a largely Hispanic group of participants living in El Paso and Bexar counties in Texas. Subjects

were assigned to either the High Risk group (having a parent with Bipolar Disorder) or the control group. Participants were assessed yearly using the UCLA Life Stress Interview to assess four domains: academic, social, behavioral and family functioning. The UCLA assessment scores range from 1-5 (1 = low or poor to 5 = superior or exceptional functioning).

**Results:** The academic functioning distributions were similar for both groups throughout the length of the study. The other groups, however, had statistically significant differences, with the control group having better functioning, but not at all points in time. Behavioral functioning was worse in the control group at year four. ( $P < 0.05$ ) Social functioning was lower in the high risk group than the control group ( $P < 0.05$ ) for years one, three and four. The family functioning distributions were lower in the high risk group than the control group ( $P < 0.05$ ) for years one and seven. When looking at all seven years of visits, the high risk group had worse functioning in all domains other than academic **Conclusion:** In this sample of Hispanic children and adolescents, having a Bipolar parent increases the risk of impaired functioning in the areas of behavioral, social and family functioning. This impairment tends to accelerate through adolescence. In the high risk group, family functioning problems are evident from the earliest age group to the teenage group. Social functioning starts becoming problematic at adolescence. Behavioral functioning seems preserved in the high risk group and worsens in late adolescence, at which point there is a significant drop. This decrease is seen primarily in the males. Academic problems in these children appear late, while family dysfunction appears to occur from the earliest ages.

#### No. 13

##### **Functional Neuroimaging in Patients With Catatonia: A Systematic Review.**

*Poster Presenter: Laura Duque, M.D.*

*Co-Authors: Juan Pablo Ospina, Kemuel L. Philbrick*

##### **SUMMARY:**

**Background:** Catatonia is a neuropsychiatric syndrome of motor, affective, and behavioral dysregulation that is thought to be associated with dysfunction in the primary motor, anterior cingulate-

medial orbitofrontal, and lateral orbitofrontal networks resulting in a hypodopaminergic state (1, 2). However, the neurobiological basis for catatonia is still not fully understood (3). Multiple disorders have been associated with catatonia, including structural brain lesions, systemic diseases, and psychiatric disorders (1). The extent to which the underlying etiology correlates to the pathophysiologic changes in catatonic patients remains unclear. We aimed to conduct this comprehensive systematic review to examine the abnormalities in functional neuroimaging of patients with catatonia and compare the functional neuroimaging findings in catatonia associated with a psychiatric disorder and associated with another medical condition. **Methods:** Electronic databases MEDLINE, EMBASE, PsycINFO, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, and Scopus were searched from inception to August 11th, 2021, in English and Spanish languages. **Results:** The search generated a total of 234 studies. Fourteen studies were included in the review ( $n=182$  catatonic patients; mean age, 37.6 years; 48.05% female). Thirteen studies reported patients with catatonia associated with a psychiatric disorder ( $n=107$  patients with schizophrenia,  $n=30$  patients with bipolar disorder,  $n=15$  patients with unipolar depression, and  $n=7$  patients with schizoaffective disorder), and one study was found with catatonia associated with another medical condition ( $n=23$  patients with N-methyl-D-aspartate receptor [NMDAR] antibody encephalitis). There was variability in imaging technique (4 studies used single-photon emission computed tomography [SPECT]; 8 studies used functional magnetic resonance imaging [fMRI]; 1 study used functional near-infrared spectroscopy [fNIRS]; 1 study used 2-deoxy-2-[ $^{18}$ F]fluoro-D-glucose positron emission tomography [18-FDG-PET]). Functional neuroimaging in patients with catatonia associated with a psychiatric disorder revealed dysregulation of premotor areas with decreased activity in the dorsolateral prefrontal cortex, supplemental motor area, anterior cingulate cortex, and left anterior parietal lobe in comparison to mixed metabolic patterns in patients with catatonia associated with another medical condition. **Conclusion:** Limited data suggest characteristic functional dysregulation in cortical areas in

catatonia. Very few studies assessed functional neuroimaging changes in catatonia associated with a medical condition. Future research is needed to compare the pathophysiologic characteristics of different disorders associated with catatonia. Further rigorous and well-powered studies of clinically relevant outcome measures are needed to better understand the relationship between clinical characteristics and functional alterations.

#### **No. 14**

#### **Attachment Styles Among Inpatient Adolescents With Parent-Child Relational Problems**

*Poster Presenter: Tiffany Tran, B.S.*

*Co-Authors: Katrina Rufino, Ph.D., Michelle Patriquin, Ph.D.*

#### **SUMMARY:**

There is little research on Parent-Child Relational Problems (PCRP), a diagnostic code used when relational problems between a parent-child dyad cause significant clinical impairment in one or both of the individuals (Wamboldt, Cordaro, & Clarke, 2015). Attachment styles have been used as indicators of parent-child relationship quality, and past research suggests that adolescents with insecure attachment styles may have a higher risk for developing depression, anxiety, and negative life outcomes (Mikulincer & Shaver, 2012; Raudino, Fergusson, & Horwood, 2013; Sutton, 2013). The current study examined the attachment styles of inpatient adolescents diagnosed with PCRP. Participants were 104 adolescents admitted to an inpatient psychiatric hospital (69.2% female;  $M=14.71$  years). Attachment styles were measured at admission using the Relationship Structures Questionnaire (ECR-RS). A diagnosis of PCRP was assessed by a trained interviewer using the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) interview. In an attempt to compare adolescents diagnosed with PCRP to those without, the current study utilized Propensity Score Matching (PSM) to match groups based on a propensity score, or balancing score, so the distribution of baseline covariates was similar among both groups. Once groups were matched for sex and age, both groups had identical sex and age compositions. Each group was comprised of 36 females and 16 males with a



mean age of 14.71 years. A Chi Square test was utilized to compare PCRP to maternal attachment style. Results of an omnibus test revealed a significant association between PCRP and maternal attachment style [ $\chi^2(3)=42.23$ ;  $p<.001$ ]. Follow up analyses revealed significant individual chi-square tests for PCRP and maternal secure attachment [ $\chi^2(1)=29.92$ ;  $p<.001$ ], maternal dismissive-avoidant attachment [ $\chi^2(1)=18.92$ ;  $p<.001$ ], and maternal fearful-avoidant attachment [ $\chi^2(1)=16.16$ ;  $p<.001$ ]. Similarly, a Chi Square test was utilized to compare PCRP to paternal attachment style. Results of an omnibus test revealed a significant association between PCRP and paternal attachment style [ $\chi^2(3)=14.04$ ;  $p=.003$ ]. Follow up analyses revealed significant individual chi-square tests for PCRP and paternal secure attachment [ $\chi^2(1)=11.90$ ;  $p=.001$ ], paternal dismissive-avoidant attachment [ $\chi^2(1)=4.04$ ;  $p=.044$ ], and paternal fearful-avoidant attachment [ $\chi^2(1)=5.95$ ;  $p=.015$ ]. Overall, results indicate that adolescents diagnosed with PCRP were more likely to have dismissive-avoidant and fearful-avoidant attachment styles and less likely to have secure attachment styles with their mothers and fathers. As the results provide evidence that adolescents with PCRP are more likely to have insecure attachment styles with their parents and insecure attachment styles are associated with a myriad of negative life outcomes, future research is needed on PCRP and its effects on the development and severity of adolescent mental health problems.

#### **No. 15**

#### **Sociodemographic and Clinical Patterns in Youth Psychiatric Emergency Services Utilization During the COVID-19 Pandemic**

*Poster Presenter: Rachel Oblath*

*Co-Author: Alison Duncan*

#### **SUMMARY:**

There is a scarcity of research examining youth psychiatric emergency services (PES) utilization past the initial stages of the pandemic. Further, limited research has explored sociodemographic and clinical differences in utilization patterns, despite known sociodemographic disparities related to health and economic impacts of COVID-19. This study examines changes in youth volume during the first 9 months of

the pandemic at an urban PES program in Massachusetts serving primarily publicly insured and uninsured patients during the first 9 months of the pandemic, in comparison to 2018/2019. We analyzed 15,045 youth encounters from 1/1/18 through 12/31/20. These encounters included visits to emergency departments and psychiatric urgent care centers, and mobile crisis team evaluations at community locations. Electronic health records provided sociodemographic information (age, gender, race/ethnicity, homelessness, insurance), psychiatric diagnosis, and visit location. We estimated a series of Poisson regressions comparing encounter volume between 2020 and 2018/2019 across five time periods corresponding to local lockdown and re-opening periods. Analyses were stratified by and controlled for sociodemographic, clinical, and contextual characteristics. During the initial COVID lockdown, encounter volume was over 50% lower than in 2018/2019 (IRR=0.44, 95% CI: 0.40-0.49). As re-opening began (May- early July), volume remained 40% lower than typical (IRR=0.63, 95% CI: 0.56-0.71). In mid-July through early October, volume was commensurate with prior years (IRR=0.98, 95% CI: 0.89-1.07); however, in the last quarter of 2020, volume dropped (IRR=0.76, 95% CI: 0.70-0.83). The most marked and persistent declines in psychiatric emergency service use during the pandemic were among children under the age of 11 (IRRs=0.27-0.59) across stages of pandemic), male youth (IRRs=0.42-0.91), and youth with conduct disorders (IRRs=0.26-0.77). There was also a drop in encounters taking place in schools during the pandemic (IRRs =0.00-0.08). Consistent with previous studies, we observed a drop in youth PES volume at the onset of the COVID-19 pandemic. Although utilization returned to normal levels from early July to October, youth PES volume was significantly lower in the last quarter of 2020 as compared to prior years. It is unclear to what extent declines in 2020 volume were influenced by fears about COVID-19 and/or changes in referral patterns due to remote and hybrid schooling models. Persistent declines in volume were observed among sub-populations that are often referred to PES by schools, particularly young males with conduct disorders. This finding suggests that, despite being an important a source of mental health services for youth, schools may also be a source of stress and

conflict for youth and families. Further research should investigate whether alternative schooling models led to decreased mental health access and/or changes in children's mental health.

#### **No. 16**

##### **Consequences From Prior Health Care Interactions on the Use of Psychiatric Emergency Services by Youth of Color**

*Poster Presenter: Carolina-Nicole Herrera, M.A.*

##### **SUMMARY:**

**Purpose:** A growing number of youth of color are using psychiatric emergency services (PES) to address their mental health care needs. This study examined whether perceptions of care seeking by youth of color and their guardians influenced the use of PES. **Methods:** Thirty youth of color (ages 12 to 20) and their guardians were recruited from clients seen by the Boston Emergency Services Team in 2021 and 2022. Youth and their guardians were interviewed about their prior experiences with the mental health care system. Our analysis of their accounts of care seeking focused on successive decisions—from initial perceptions of illness to selection of where to turn for help—that led to the PES visit. **Initial results:** Prior to the PES visit, guardians recognized the symptoms of mental illness and most youth of color received some form of office or school-based treatment. Guardians reported limited care options for youth with developmental disorders and moderately severe mental illness; as a result youth had seen multiple providers, some of whom were not familiar with the appropriate treatment of the youth's condition. Guardians felt anxious when making health care decisions or speaking with multiple providers. Guardians expressed frustration with treatment plans that were incompatible with their daily lives. Some guardians stigmatized boarding and locked units, actively resisting more intensive treatment. Many youths of color did not feel comfortable engaging with providers or had little hope that office-based mental health treatment would improve their quality of life. While youth could speak to their symptoms and experiences, youth felt the actual decision makers were clinicians. **Discussion:** Multiple negative experiences with accessing office-

based care led to undertreatment of youth of color's existing conditions and influenced their need for psychiatric emergency services. To address rising psychiatric emergency services visits, health care leaders should engage youth, guardians, and communities of color to address policies that contribute to inadequate mental health care for youth of color. Building trust between communities of color and mental health systems will require streamlining access to appropriate, local, office-based mental health providers; developing community-based training about mental health care services; investing in culturally competent advocacy training for guardians, youth of color, and providers; increasing the availability of pediatric mental health specialists embedded in the community; and outreach to youth of color about mental health conditions and outcomes from treatment.

#### **No. 17**

##### **Use of Fluoxetine in Treating Anxiety-Induced Vomiting in 3-Year-Olds With a Complex Trauma and Developmental Concerns**

*Poster Presenter: Daniel J. McNeil, B.S.*

*Co-Authors: Maggie DeBolt, M.D., Deborah Preston, B.S., Hillary Porter, D.O.*

##### **SUMMARY:**

Children with multiple health conditions and histories of trauma often display anxiety reactions.<sup>1</sup> Clinical levels of anxiety in pediatric patients can present with gastrointestinal disturbances such as nausea and vomiting.<sup>2</sup> Young children with failure to thrive, nutritional deficits, and a history of child abuse and neglect are particularly at risk for serious complications with anxiety-induced vomiting,<sup>3,4</sup> and this effect can be exacerbated in healthcare situations. Fluoxetine is a selective serotonin reuptake inhibitor (SSRI) that is currently FDA-approved for the treatment of Major Depressive Disorder, Panic Disorder, Obsessive Compulsive Disorder, and Bulimia Nervosa. Although not currently FDA-approved for treating young children with anxiety disorders, promising literature has indicated Fluoxetine's empirical safety and efficacy for such treatment in pediatric patients.<sup>5,6</sup> Additionally, neurobiological and pharmacological models in anxiety development support the

pathophysiology of SSRI use in this population.<sup>7</sup> Our cases involve three-year-old Caucasian females with histories of multiple medical conditions and extreme neglect. Case 1's medical history includes failure to thrive, *in utero* drug exposure, cerebral palsy, mitral valve prolapse, spinal dysraphism, and intellectual disability. She was referred because of a history of vomiting that seemed to be related to anxiety and the healthcare setting. At the time of referral, the patient was underweight and had poor feeding with a gastrostomy tube placed. Due to the apparent anxiety component of the gastrointestinal symptoms, 1mg Fluoxetine was initiated with a dosage increase to 2mg 3 months later. Following administration of Fluoxetine, vomiting ceased, and feedings were more successful. Case 2's history includes sexual abuse, separation anxiety, posttraumatic stress disorder, and cyclic vomiting. She was hospitalized for vomiting and struggled with anxiety while an inpatient, manifesting as separation anxiety and worries about her home situation. In addition to outpatient individual mental health services, 2mg Fluoxetine was started because of the relationship between the cyclic vomiting episodes and anxiety. Vomiting decreased, and one month later dosage was increased to 8mg as symptoms started to slowly return. Patient was able to tolerate anxiety-provoking situations better and expressed less separation anxiety. Outcomes of these cases suggest the possible efficacy of Fluoxetine even in young children with anxiety-related symptoms, including vomiting. Ethical and medical considerations will be discussed, as well as recommendations about use of Fluoxetine in young pediatric patients with similar conditions.

#### **No. 18**

##### **Depression, Anxiety and Suicidal Ideation Among People With COVID-19 Infection Based on a Pilot Telemental Health Project in Nepal**

*Poster Presenter: Prashanta Bhattaraj, M.B.B.S.*

#### **SUMMARY:**

**Background:** Psychological distress of the COVID-19 pandemic has affected the world far more than expected, and the impact might be more serious in under-resourced countries like Nepal. [1] Depression, anxiety, and an increase in suicide were

widely seen during the pandemic. [2] [3] During the second wave of the pandemic, a group of volunteers provided free telemental health services to people with COVID-19 in Nepal. In this context, we studied the prevalence of anxiety, depression and suicidal ideation among the patient population. **Methods:** A team of volunteer health professionals were trained to screen mental illnesses and providing psychological first aid (PFA). About 1000 people with COVID-19 infection receiving outpatient care were called and 582 of them consented to the study and the intervention. They were screened for depression, anxiety, and suicidal ideation using GAD-2, PHQ-2, and C-SSRS respectively in July 2021. People with any mental illness symptoms were further evaluated and were provided PFA, and people with severe symptoms were further evaluated and treated by psychiatrists and counselors. **Results:** Almost half of the screened people were in age range 20-40, and 42% of them were female. Only 5.84% of them had anxiety, 6.53% had depression and 1.37% had suicidal ideation. PFA was provided to 158 people and 52 of them received further evaluation and treatment by psychiatrists and counselors using telephone-only technology. **Conclusion:** Telemental health care with a telephone can be a viable option to improve access to care for people with COVID-19 infection in Nepal. The prevalence of anxiety, depression, and suicidal ideation in our study population in Nepal was less than that reported by other studies around the world.

#### **No. 19**

##### **Unhoused and Untreated: How the COVID-19 Pandemic Has Limited Access to Mental Health Services for People Experiencing Homelessness**

*Poster Presenter: Zachary Mark Simpson*

*Co-Author: Britta Ostermeyer, M.D.*

#### **SUMMARY:**

The existential threat of COVID-19 has caused healthcare providers and institutions to re-assess the healthcare delivery model, especially with regards to resource-limited communities. The pandemic has worsened the dual epidemics of homelessness and opioid use in the United States, both of which have resulted in an uptick in the prevalence of mental

health problems in our most vulnerable populations. This poster reviews the current literature surrounding access to mental health services during the COVID-19 pandemic, specifically for people experiencing homelessness, with the goal of summarizing the myriad ways in which the pandemic has disproportionately affected access to mental health services and treatment for people experiencing homelessness. For the initial literature review, Ovid MEDLINE was used as the search engine, and keywords in this search included COVID-19, homeless persons, psychiatry/psychology, and treatment or health services. Out of 124 initial search results, 29 articles were further selected for inclusion based off of their specific relevance to the topic at hand. In surveying the relevant literature, a number of themes became evident and serve as the foundation for further discussion: 1) The economic consequences of the pandemic have resulted in worsening incidences of homelessness in the United States; 2) Worsening ability to meet basic needs and fear of COVID-19 infection among individuals experiencing homelessness has worsened the already tenuous state of mental health in this vulnerable population; 3) COVID-19 and the ensuing local and national social distancing regulations have exacerbated systems of inequality that already limited access to mental health services and treatment for people experiencing homelessness. This poster addresses multiple variables related to the delivery of mental health services during the COVID-19 pandemic for people experiencing homelessness, providing much-needed context for mental health providers so that they may be able to better appreciate how the pandemic has influenced barriers to care for the people they serve. Keywords: COVID-19, homeless persons, psychiatry, psychology, treat, health, services

## **No. 20**

### **A Novel, Web-Based Patient-Centric Study to Evaluate the Impact of Treatment of Tardive Dyskinesia With Valbenazine: The Rxkinect Study**

*Poster Presenter: Maria Mercedes Perez-Rodriguez, M.D., Ph.D.*

*Co-Authors: Ericha Franey, Stacy Rattana, Morgan Bron*

## **SUMMARY:**

A disorder characterized by persistent involuntary movements of the tongue, lower face and jaw, and/or extremities and trunk<sup>1</sup>, tardive dyskinesia (TD) is associated with prolonged use of antipsychotics (Ps) or other dopamine receptor blocking agents<sup>2-4</sup>. TD is potentially disabling, and recent literature demonstrates that patients can suffer physical and emotional consequences and impairments in daily functioning and quality of life<sup>5,6</sup>. Importantly, clinicians have reported correlations in physical and functional improvement as well as overall wellness with successful treatment of TD with a vesicular monoamine transporter 2 (VMT2) inhibitor<sup>7</sup>. However, the patient perception of the effectiveness of treating TD with pharmacological agents has not been the direct focus of research initiatives to date. Regulators, payers and patient groups have all strongly endorsed patient-centric data generation projects<sup>8</sup>, featuring the use of new technologies facilitating permission-based access to high-quality and granular data from electronic medical records and other sources. Similarly, advances in both technology and research design are embracing “virtual” (direct-to-patient) prospective studies that require no investigative sites and, as such, may better reflect “real world” treatment conditions and patient-reported outcomes. RxKinect is the very first of these studies focused on the treatment of TD. RxKinect is a prospective, observational study in patients diagnosed with TD and for whom their physician will have prescribed new treatment with the VMAT2 inhibitor, INGREZZA (valbenazine). The study will include participants who choose to fulfill their prescription, as well as those who are not able to or elect not to utilize valbenazine as prescribed. Recruitment of patients will be conducted through specialty pharmacies providing prescription fulfillment for INGREZZA. All data collection from consenting patients (and, as appropriate, caregivers) will be through electronic questionnaires (web- or app-based) provided at Baseline (enrollment) and at Months 1, 3 and 6. In addition to patient demographics, comorbidities, TD history, and valbenazine dosing, specific assessments will include the use of validated instruments to obtain longitudinal patient data on the impact of TD on movement, social interactions and emotions, work, school and daily functioning. Patients will also

report their overall wellness, TD severity, symptomatology, satisfaction with treatment, and patient social support structure. All data will be compiled and analyzed, with potential subgroup analyses undertaken by age group, gender, reported comorbidities, body region impacted, underlying psychiatric condition, and duration of treatment. Final findings are expected to be available in Q4 2022; findings from an interim analysis are planned for inclusion in this poster.

**No. 21**

**What You Don't Know "CAM" Hurt You: A Review of Problematic Complementary and Alternative Medication (CAM) Use in Psychiatric Patient Populations**

*Poster Presenter: Sarah Rose Erdelyan, M.D.*

**SUMMARY:**

What was once identified as "Alternative Medicine" has evolved over the past decade or so into a topic more frequently referred to as Complimentary & Alternative Medicine (CAM). It has been estimated that the use of CAM by adults has increased from one-third of the US population in 1993 to somewhere between 62 to 68% in 2002 (Chan, 2008). Not all studies agree with the same percentage of CAM use, but the historical trend seems to be upwards. CAM now encompasses a wide range of therapies from probiotics & melatonin to yoga, prayer and acupuncture. Generally considered by patients as "safe" and "natural", herbal medications are available without a prescription & are legally considered dietary supplements rather than drugs. As such they are not tightly regulated by the FDA. Blanket statements such as "improves immune function" or "promotes liver health" can be made without any scientific evidence. Physicians commonly neglect to carve out space in our discussions with patients about their alternative medication regimens or any existing or potential supplement use. This has resulted in adverse events for patients, where psychiatric symptoms are either exacerbated or instigated as in a case of first-time mania or new violent behaviors toward family. Studies have shown that very few patients have been asked, disclosed, and had documentation of dietary supplements in their

medical records. Factors such as patient age, or race (identifying as non-white) leads to less likelihood of dietary supplements being documented. In this poster, we will review an outpatient case of a schizophrenic patient who caused increase in his own violent behaviors after purchasing substances online. In addition, we will review new research from an adult outpatient psychiatry clinic with a predominantly medically underserved Hispanic patient population looking at disparities of reported supplement use to physicians compared with information gathered at arrival to clinic when specifically asked to disclose. In this poster, we discuss the cultural significance of various substances, and patients' understanding of the potential impact on their psychiatric medication regimen.

**No. 22**

**The Needle in a Haystack: Catatonia Complicating West Nile Virus Infection**

*Poster Presenter: Thanh T. Nguyen, M.D.*

*Co-Author: Mary Thomas, M.D.*

**SUMMARY:**

West Nile Virus (WNV) is a mosquito borne flavivirus infection that can present with a myriad of symptoms. WNV typically presents with abrupt onset of fever, headache, malaise, back pain, myalgia and anorexia. A subset (<1%) of patients can develop significant CNS involvement ranging from neuropathy to encephalitis. We present a case where diagnosis was impeded by acute onset of non-fluent speech and catatonia, both of which impeded clinical assessment and diagnostic clarity. A 21-year-old woman was brought to the emergency department because of mutism, anorexia, confusion, and urinary/fecal incontinence. Clinical signs included tachycardia, a low grade fever, and leukocytosis. The patient also demonstrated Catatonia and non-fluent speech. She was treated with multiple rounds of broad spectrum antibiotics. Initial studies did not reveal the etiology of the changes in mental state and behavior. Catatonia was treated empirically with large doses of benzodiazepine, with minimal benefit. She also underwent thirty sessions of Electroconvulsive therapy (ECT), which resulted in reconstitution of

eating and speaking. Ultimately, a third cerebral spinal fluid (CSF) study was completed including West Nile Virus (WNV) serology, revealing positive immunoglobulin G (IgG). This case illustrates an atypical presentation of West Nile Virus with catatonia, and non-fluent speech. Catatonia and disorganized language can present in a variety of psychiatric illnesses. This case highlights the critical need for an extensively broad differential in the setting of catatonia.

#### **No. 23**

##### **An Evaluation of the Demographic and Clinical Landscape of Patients Referred to the Inpatient Consultation-Liaison Psychiatry Service**

*Poster Presenter: Juliann Chhen Tea, M.D.*

*Lead Author: Nidal Moukaddam*

*Co-Authors: Asim Shah, Sawsan Khan*

#### **SUMMARY:**

**Background:** The landscape of consultation-liaison (CL) psychiatry reflects the variability in medical and psychiatric service needs in communities.

Anecdotal evidence has pointed to a change in the medical setting and subsequently CL services through the COVID-19 pandemic. There has been a geographically-dependent variation in psychiatric hospitalizations and emergency mental health crises volumes, accompanied by fluctuations in substance use patterns. The accumulation of these changes may have affected CL services patient volumes and presentations. **Methods:** We surveyed residents, fellows, and attendings at Baylor College of Medicine and the University of Texas Health Department of Psychiatry & Behavioral Sciences to map the demographic being served in Houston, Texas and to evaluate the needs of both patients and medical/surgical teams. An anonymous, seven-question, multiple-choice survey was developed on QualtricsXM and was issued to participants.

**Results:** Sixty-six participants filled out the survey (7 attendings, 7 fellows and 42 residents). The top three patient reported chief complaints encountered on the service were suicidal ideations, depression and psychotic symptoms, whereas the most prevalent concerns from consulting teams (medical and surgical) were delirium, aggression/behavioral problems and risk

assessments. The top psychiatric conditions encountered by residents and attendings manning the CL services were mood disorders, delirium and substance use disorders and adjustment disorders were tied for third. Common psychosocial problems noted include limited social support, unstable housing and access to post-discharge care. Residents and faculty would mostly recommend cognitive-behavioral therapy (CBT), relaxation techniques, and distraction techniques for patients on the CL service. **Conclusions:** This survey assessed the current patterns of consults on psychiatry CL services at two major Houston academic institutions. This study represents a promising exploratory foray into the types of clinical challenges CL faculty and residents face. Results suggest that consults to the psychiatry CL service revolve around behavioral issues and harm to self and others, rather than primary mood or psychotic disorders. This is the case for manifestations of substance use disorders and suicidality. Results suggest a discrepancy between the prompts for consults from medical and surgical teams, and the psychopathology often diagnosed upon consult completion. These findings highlight educational opportunities for medical and surgical teams about manifestations of poorly controlled mental illness. They also highlight potential areas of administrative improvements, including more proactive management of mental illness, before escalation to behavioral issues. In addition, there appears to be an appreciation of unmet psycho-educational needs for patients while hospitalized.

#### **No. 24**

##### **Psychological Considerations in the Vaccination Experience: A Case of Dysautonomia and Unrelenting Anxiety Following Mrna COVID-19 Vaccination.**

*Poster Presenter: Yekaterina Angelova, M.D.*

*Co-Authors: Jennifer Finkel, Bridget King, M.D.*

#### **SUMMARY:**

Global dissemination of the COVID-19 vaccine has been prioritized by every major health organization around the world. Yet many Americans remain hesitant to get vaccinated, some citing safety concerns stemming from the thousands of adverse

events reported to the CDC and FDA's Vaccine Adverse Event Reporting System (VAERS). In an attempt to assuage public safety fears, the CDC and FDA have advised against drawing firm conclusions from VAERS due to inherent biases of an open and passive reporting system. The CDC reminds us that "correlation does not imply causation." While scientifically sound, this disclaimer does little to offer any alternative explanation for the number of adverse events reported since the vaccine roll-out. To develop a more meaningful understanding of adverse reactions to the COVID-19 vaccine, it is critical to explore the complex, bidirectional and reciprocal relationship between mental and physical health. It is of utmost importance to shed light on the "vaccination experience" - a particularly nociceptive one - that draws attention to the somatic realm and the interplay between an individual's physical, psychological and psychosocial factors. We present a case of a young woman who exhibited signs and symptoms of an allergic response and dysautonomia following her second dose of the mRNA COVID-19 vaccine, resulting in two hospital admissions, and a psychiatric consultation. While certain side effects associated with the vaccine have been commonly reported (e.g., headache, fatigue, fever, chills, dizziness, palpitations and localized swelling), this patient's secondary anxiety, panic and psychological distress prompted us to utilize the Somatic Symptom Disorder (SSD) framework to formulate a novel treatment plan for her unique clinical presentation<sup>1</sup>. We initiated cognitive behavioral therapy (CBT) interventions at bedside, which have shown efficacy in improving somatic symptoms, anxiety, depression, and physical functioning in those suffering from somatic symptom related disorders<sup>2,3</sup>. We bridged the anticipated benefits of CBT with low-dose escitalopram and as-needed hydroxyzine. The patient demonstrated a robust and rather prompt response to the aforementioned interventions, with significant improvement in physical symptomatology (palpitations, dizziness, shortness of breath, and fatigue) in addition to relief of anxious thoughts, insomnia and decline in severity and frequency of intermittent panic attacks. This case highlights the importance of considering the individual's physical and psychological responses following COVID-19 vaccination, and how the interplay between the

mind and body potentially influences emergence, severity and persistence of adverse events. A holistic treatment approach is therefore of the essence in addressing distressing "vaccination experiences."

#### **No. 25**

#### **Culture, Psychosis, and HIV: A Patient Highlights the Interplay of Cultural Competency, a Thought Disorder, and the Neuropsychiatric Complications of HIV.**

*Poster Presenter: Jacob Wardyn, M.D.*

#### **SUMMARY:**

The Psychiatric Consultation & Liaison Service assesses a wide range of medically complicated patients. One such patient, an HIV-positive African immigrant, presented to the hospital with the ingestion of magnets due to witchcraft per his report. Removal of the magnets required multiple abdominal surgeries and an extended hospital stay. Throughout the admission, the patient had notable disorganization, illogical thought processing, and low executive functioning. This patient's presentation highlights the need to 1. identify culturally appropriate beliefs versus frank delusions and 2. differentiate neuropsychiatric symptoms secondary to a primary thought disorder vs. an underlying medical condition (ie HIV). As a result, a literature review of the broad perspective of African culture and its interplay with witchcraft was performed as well as an added emphasis on the potential relationship between HIV and neuropsychiatric symptoms. This presentation will attempt to concisely synthesize this information.

#### **No. 26**

#### **HLA-B\*1502 Testing: Understanding Risk of SJS/TEN in Asian Patients Using Evidence-Based Geographic Maps**

*Poster Presenter: Kristina L. Jones, M.D.*

*Co-Authors: Wilson Chung, D.O., Esha Hansoti, M.D.*

#### **SUMMARY:**

**BACKGROUND:** -Carbamazepine is an FDA-approved treatment for acute manic and mixed episodes. - Carbamazepine is associated with a risk of SJS/TEN: Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis. -These rare but serious conditions have

mortality rates as high as 5-12% for SJS, and up to 30% for TEN. -The discovery of a strong pharmacogenetic association between HLA-B\*15:02 (an HLA class I allele) and SJS/TEN suggests that SJS/TEN could be prevented by testing patients for this allele before prescribing. **RATIONALE:** -It is incumbent on physicians to be alert to the multiple countries that constitute "Asia", especially South Asia, to avoid prescribing Carbamazepine to at risk groups. -Asian people as well as those of South Asian ancestry now form the bulk of immigration to the USA, making it imperative for physicians to know which patients to test. **METHODS:** 1) We performed a literature search for cases of SJS/TEN and prevalence data for HLA-B\*15:02 across Asia and South Asia. We present a case history and photographs of our patient of South Asian ancestry who survived SJS. 3) We combined maps of known prevalence of HLA-B\*15:02 with historical maps of patterns of migration in the last 1000 years in Asia and South Asia to clarify distribution of the allele by region. **RESULTS:** -More than **15%** of the population in Hong Kong, Thailand, Malaysia, and parts of the Philippines are HLA-B\*15:02 positive. -This compares to about **10%** of Taiwan, and **4%** in Northern China - South Asians, including people from India, have an intermediate prevalence of **2-4%** -Japanese and Korean people have less than **1%** population prevalence -In Caucasians, African Americans, LatinX and Native Americans HLA-B\*15:2 allele is largely absent -Our de-identified case photos show how SJS appears in a patient of South Asian descent. **DISCUSSION:** -SJS/TEN is a rare but sometimes fatal condition that can occur in psychiatric patients treated for mania with Carbamazepine. -This makes it essential for physicians to know how to ask about ancestry and mixed ancestry in both American-born and Asian-born patients. -While the FDA cautions to keep in mind the limitations of prevalence rate data when deciding which patients to screen, our visual tool clarifies which parts of Asia have higher prevalence and thereby helps guide genetic testing by improving recognition of specific groups who are at higher risk.

## No. 27

### Racial Disparities in Genome Wide by Childhood Trauma Interactions Research in Major Depressive Disorder

Poster Presenter: Bekir B. Artukoglu, M.D.

#### SUMMARY:

**Background:** Major Depressive Disorder (MDD) is a highly prevalent and impairing psychiatric disorder that is partially heritable. Its large polygenicity and questionable validity of candidate gene studies directed research efforts towards genome wide association studies (GWAS) (Border et al., 2019). GWAS of MDD have begun to detect replicable variants (Howard et al., 2019). In addition to genetic influences, childhood trauma (CT) is also an established risk factor for developing MDD later in life (Huh et al., 2017). Importantly, there are large racial disparities in rates of childhood adversity; the prevalence, duration, severity and connection to treatment in MDD (Williams et al., 2007, Crouch et al., 2019). The goals of this systematic review study are two-fold: 1) Synthesize findings of different genome-wide association studies (GWAS) of MDD which examined CT exposure; (2) Investigate sample characteristics as race may interact with other determinants of MDD. **Methods:** A literature search of PubMed was conducted for studies that investigated the role of CT exposure in genome-wide studies of MDD. **Results:** This literature search resulted in 3 published studies: 1) 1645 MDD cases and 340 controls in the Netherlands (Peyrot et al., 2014). Polygenic risk score (PRS) and CT independently affect MDD risk and that the effect of PRS increased in the presence of childhood trauma. 2) RADIANT UK sample which has a subset of 240 cases and 272 controls with CT data (Mullins et al., 2016). PRS score did not predict depression status in the CT group. PRSxCT interactions were found to be an inverse association. 3) Meta-analysis on nine cohorts to study 3,024 MDD cases and 2,741 controls (Peyrot et al., 2018). Authors reported that MDD is significantly associated with PRS (OR=1.24, p=3.6e-5, R<sup>2</sup>=1.18%) and CT (OR=2.62, p=1.4e-5). No interaction was found between PRS and CT measures (OR=1.05, p=0.66). All studied samples only included individuals of European descent. **Conclusion:** While two of the earlier studies found evidence of a PRSxCT interaction, a later meta-



analysis of nine cohorts, found no interaction between PRS and CT. These conflicting findings can be interpreted as a result of the individual studies having either inadequate power, low external validity, different measures of childhood trauma or the meta-analysis utilizing findings from heterogeneous samples and methodologies. We caution against generalizing the findings of the existing studies as all the samples were limited to individuals of European descent. Epidemiological studies conducted in the United States have shown that the rates of adverse childhood experiences and childhood trauma are higher in “Non-Hispanic African American” children. Similarly, research indicates that race is a major determinant of MDD leading to differences in prevalence, prognosis, and treatment access/outcomes. Future samples need to move beyond focusing on individuals of European ancestries to address these concerns.

#### **No. 28**

##### **Experience in the Development of an Intranasal Esketamine Registry Using a Retrospective Chart Review for Patients Receiving Intranasal Esketamine**

*Poster Presenter: Jeffrey I. Bennett, M.D.*

*Co-Authors: Albert Botchway, Philip Brian Schoenrock, M.D., Samuel Keck-Flory, Keertan Reddy, M.D.*

#### **SUMMARY:**

**Background:** Major Depressive Episodes (MDE) are common in mood disorders and are among the leading causes of disability in the United States, by some estimates costing more than 90 billion dollars annually. Further, more than half of all suicide attempts are directly attributed to depression. Current antidepressant medications can take several weeks, often six to eight weeks, to reach therapeutic effect, while patients continue to experience and suffer from symptoms. Additionally, depending upon the definitions used, about 10-20% of patients may fail to respond to multiple trials of medications, developing a more chronic or recurrent, disabling, and costly condition called Treatment Resistant Depression (TRD). Intranasal esketamine was approved by the FDA for use as adjunctive treatment for TRD and has become widely available in

outpatient clinic settings. However, the generalizability of esketamine, to the outpatient psychiatric population at our institution is unclear, particularly when compared to other available somatic (nonpharmacological) treatments such as electroconvulsive therapy (ECT), transcranial magnetic stimulation (TMS), and vagal nerve stimulation. The most efficient care and optimal use of various limited treatment modalities is critical in the management of a potential large pool of outpatients with TRD. **Methods:** We developed an intranasal esketamine clinic patient registry at a community based academic medical center using the internet based database, survey and analysis tool, REDCap to provide information on attributes in our clinical population referred for esketamine treatment which are associated with quality outcomes. Selected attributes were based on preliminary chart review and analysis of all patients referred to and who received treatment in the intranasal esketamine clinic. **Results:** This project demonstrates the feasibility of creating a modifiable psychiatric patient registry which can collect exported patient demographic, history, and outcome inventory scores (PHQ-9, GAD-7, WHODAS) from the clinic electronic health record. Simultaneously, the data from the retrospective chart review was analyzed and used to optimize the collection process for data integrity and to review the effectiveness of treatment to date. Demographic, efficacy, and prognostic data will be presented. **Conclusions:** The development of a registry using a preliminary retrospective chart review can successfully be achieved for intranasal esketamine treatment, an innovative, relatively precious treatment modality to further inform the patient selection and help predict quality outcomes. Further work will involve expansion of the registry to allow comparison with other treatment modalities for Treatment Resistant Depression.

#### **No. 29**

##### **Sustained Improvement in Depressive Symptoms: Results From Zuranolone Clinical Development Program (Major Depressive Disorder/Postpartum Depression)**

*Poster Presenter: Anita Clayton, M.D.*

*Co-Authors: Kristina M. Deligiannidis, M.D., Stephen Kanos, M.D., Ph.D., James Doherty, Ph.D.*

## SUMMARY:

Background: Zuranolone (ZRN) is an investigational, oral neuroactive steroid and gamma-aminobutyric acid type A (GABA<sub>A</sub>) receptor positive allosteric modulator in clinical development for once-daily, 2-week (14-day) treatment of major depressive disorder (MDD) and postpartum depression (PPD). **Methods:** Completed double-blind placebo (PBO)-controlled studies of ZRN in MDD are MDD-201B (NCT03000530; Phase 2; ZRN 30 mg [ZRN30]; baseline 17-item Hamilton Depression Rating Scale total score [HAMD-17] =22; N=89), MOUNTAIN (NCT03672175; Phase 3; ZRN 20 mg [ZRN20] or ZRN30; baseline HAMD-17 =22; N=581), and WATERFALL (NCT04442490; Phase 3; ZRN 50 mg [ZRN50]; baseline HAMD-17 =24; N=543). SHORELINE (NCT03864614; Phase 3; baseline HAMD-17 =20, baseline Montgomery-Åsberg Depression Rating Scale total score =28) is an ongoing open-label study evaluating repeat dosing of ZRN30 or ZRN50 in MDD; the ZRN30 cohort (N=725) is completed. ROBIN, a double-blind PBO-controlled study in PPD (NCT02978326; Phase 3; ZRN30; baseline HAMD-17 =26; N=153) is completed. All studies assessed improvements in depressive symptoms by analyzing the least squares mean (LSM) change from baseline (CFB) in HAMD-17 at Day 15. **Results:** Treatment with ZRN led to rapid improvements in depressive symptoms compared with PBO across trials at Day 15, with statistically significant improvements (LSM [SE] treatment difference [ZRN-PBO] in CFB in HAMD-17) observed across 3 studies: MDD-201B (-7.0 [1.6], p<0.001), WATERFALL (-1.7 [0.70], p=0.0141), and ROBIN (-4.2 [1.37], p=0.003). Numerical improvement was observed in MOUNTAIN (ZRN20, -0.4 [0.85], p=0.6638; ZRN30, -1.4 [0.89], p=0.1158). Numerically greater improvement in depressive symptoms was seen at Day 42 in MDD-201B (-2.3 [1.86], p=0.2120), MOUNTAIN (ZRN30, -0.2 [0.92], p=0.8166), and WATERFALL (-0.9 [0.76], p=0.2344). Significantly greater improvement in depressive symptoms was seen at Day 45 in ROBIN (-4.1 [1.34], p=0.003). Numerical improvements in depressive symptoms were seen out to 6 months' follow-up in MOUNTAIN (LSM CFB [SE] in HAMD-17 at Day 182 for ZRN30 vs PBO: -13.9 [0.72] vs -13.2 [0.74]; p=0.5004). Over 1 year, 42.9% of patients receiving ZRN30 in

SHORELINE required only the initial dosing cycle and 25.6% required only 1 additional cycle. Treatment-emergent adverse events (incidence =5% in any ZRN treatment arm; range across the 5 trials) included headache (6.3%–17.8%), somnolence (5.9%–15.3%), dizziness (5.7%–13.8%), nausea (3.6%–11.0%), upper respiratory tract infection (1.1%–8.1%), sedation (4.4%–7.5%), fatigue (1.6%–6.8%), diarrhea (3.0%–6.7%), and dry mouth (3.7%–6.2%). No incidences of loss of consciousness or excessive sedation were observed in any of these trials to date. **Conclusions:** Treatment with ZRN led to rapid and sustained improvement in depressive symptoms across multiple studies in MDD and PPD. ZRN has been generally well tolerated, with a consistent safety and tolerability profile.

## No. 30

### “Intersectionality Storytelling—Understanding Lived Experiences of Social Determinants Through Storytelling Exercises in Clinical Settings

Poster Presenter: Erin Elizabeth Capone, M.D.

Lead Author: Roxane Bodola

Co-Authors: Mark Harold Townsend, M.D., Erin Elizabeth Capone, M.D.

## SUMMARY:

This ongoing research project measures the efficacy of "Intersectional Storytelling", that is educational tools and interventions designed to foster the listening skills of mental health providers to improve outcomes. It employs storytelling techniques and focuses on intersectional identities. Narrative medicine stresses the importance of 'radical' listening skills in regards to patients' illness narratives, while the understanding of patients' intersectional identities allows us to develop treatment plans that accommodate a patient's specific needs. The role of intersectional identities for mental health outcomes has been widely discussed. The same is true for the efficacy of narrative approaches to both physician wellness and patients' mental health. All of the above were combined in "Intersectional Storytelling" to promote a more just medical practice. Studies have shown a significant impact of intersectional identities on patient outcomes, for example, in correlation with over-/underdiagnosing or access to care.

Additionally, storytelling techniques implemented in patient interactions are said to make healthcare information more accessible and may improve the listening skills of medical professionals. The project combined these two approaches and developed educational interventions that can be utilized in various educational settings. We developed workshops for all levels of learners. Medical students, postgraduate trainees and faculty members complete an intersectional identities mapping worksheet and compose a narrative about those identities that they will present to a partner. In a structured exercise, participants reflect on each other's narratives and learn how intersectionalities are communicated. Afterwards, participants will complete an anonymous mixed-method survey that gauges the exercises' impact on their listening skills, self-awareness, narrative comprehension, and understanding of intersectionalities. Initial data points suggest that the approach helps participants to reflect on, and understand, lived experiences of social determinants through the methods of oral storytelling in a clinical setting. The project contributes to both, an advanced, critical approach to narrative medicine as well as DEI measures to improve outcomes. We hypothesize that the ability to accurately identify the important intersections in a patient's narrative will improve the patient experience through better treatment plans and ultimately better outcomes.

### No. 31

#### **Mental Health Care in Suicides: Analyzing Demographics as a Social Determinant**

*Poster Presenter: Nicole Panzica*

*Co-Authors: Sooraj John, M.D., Li Li, M.D., Ph.D., Brandi McCleskey, M.D.*

#### **SUMMARY:**

Background: Suicide is often associated with mental illness, lifetime stressors, and unequal access to healthcare. Suicide is a specific manner of death in terms of public health statistics, which is derived from death certificates and often investigated by coroners and medical examiners. Studies have shown how demographic differences can be risk factors associated with suicide related deaths (1). Access to care is a large determinant of

how a patient's mental illness progresses (2). In patients who have been engaged with mental healthcare, the continuation of care after initial evaluation is associated with lower rates of completed suicides (3). Further research on the relationship of demographics and patient follow-up may be beneficial to healthcare outcomes. This study utilizes a primary data source to present observational details regarding differences in access to mental healthcare between demographics and its potential relation to suicide completion. Methods: Patient data was pooled from a combination of the Jefferson County Coroner/Medical Examiner's Office (JCCMEO) database and the University of Alabama at Birmingham (UAB) Hospital medical records system. All decedents of JCCMEO from 2019 to 2021 with a manner of death of "suicide" were reviewed, along with their history of mental health diagnoses and care that were documented via reports by friends and family. Demographics, diagnoses, and documented follow-ups and/or psychiatric medication histories were collected from the UAB electronic health record if available. Demographics were then compared to analyze the percentages of decedents that received psychiatric follow-up care. Follow-up care was defined as psychiatric hospitalizations, prescription of a medication with psychiatric indication, and counseling programs. Limitation should be noted that only follow-up care noted in the UAB medical record system could be included. Results: This study includes 92 decedents whose death was ruled as a "suicide" after investigation by the JCCMEO between 2019-2021. 48% of these decedents had received some form of mental health care prior to death. Further when subdivided by race, treatment percentages differed as follows: white population 54%, black population 33%, and Hispanic population 0%. When subdivided by gender, 53% of the female decedents and 47% of the male decedents received care. Conclusion: Our findings show that only 48% of decedents' records had evidence of some form of mental health treatment at the selected institution prior to completed suicide. Furthermore, the differences in prevalence of mental health treatments between decedents based on demographic factors may demonstrate a discrepancy in access to programs

which may reduce suicide risk. Additional studies applying this type of analysis to a wider sample of decedents would further clarify discrepancies in access to programs which may reduce suicide risk.

### **No. 32**

#### **“Medical Noncompliance” in the Setting of Structural Violence: A Phenomenological Case Study and Structural Vulnerability Formulation**

*Poster Presenter: Shane Patrick Collins, M.D., M.S.*

*Co-Authors: Seema Clifasefi, Matthew Iles-Shih, Belle Ngo*

#### **SUMMARY:**

**Background:** The social science framework of structural vulnerability provides a valuable heuristic for recognizing and responding to the social, political, and economic forces that fuel the social determinants of mental health. Yet, this framework remains underutilized in clinical psychiatry, where structurally-determined health inequities persist along lines of race, ethnicity, class, sexual orientation, and gender identity. This qualitative case study explores the potential for integrating structural vulnerability into the classic 4P model of biopsychosocial case formulation by providing a phenomenological analysis and structurally-centered formulation of a patient experiencing multiple rehospitalizations and worsening health in the setting of opioid use disorder, homelessness, and historical trauma. **Methods:** This study uses a qualitative case study design. Data were collected via a longitudinal series of in-depth interviews with the case study patient, a middle-aged Native American man recently initiated on buprenorphine-naloxone for opioid use disorder after undergoing below-the-knee leg amputation at a large urban county hospital. Data analysis was guided by interpretative phenomenological analysis. Key themes were identified and organized into an adapted 4p factor model case formulation which has been expanded to consider structural vulnerability. **Results:** The following biopsychosocial-structural factors were identified as contributing to the patient’s recurring cycle of chronic homelessness, hospitalization, substance use disorder, and deteriorating health. Predisposing factors include: childhood homelessness and poverty,

intergenerational trauma, family history of substance use disorders, and widespread availability of pharmaceutical opioids in his community.

**Precipitating factors include:** loss of social support and amputation of his lower leg. **Perpetuating factors include:** lack of access to housing, adjusting to new physical disability, untreated psychiatric and substance use disorders, and restrictions on community resources due to COVID-19. **Protective factors include:** relationship to family and Native community and access to urban medical and social services. **Conclusions:** Through combining the diachronic 4P model of biopsychosocial case formulation with the social science concept of structural vulnerability, this poster provides an example for applying the structural vulnerability lens within the clinical setting. In our discussion of this case study analysis, we consider how this approach helped us reconceptualize the patient’s acute symptomology and high-risk behavior as manifestations of structural violence and historical trauma. These findings illustrate how expanding beyond a myopic, acontextual clinical focus on individual-level health behavior facilitates greater etiological understanding and promotes the development of multi-level interventions to address the structural drivers of the social determinants of health.

### **No. 33**

#### **Moving Beyond the Margins: Trainee and Faculty Perspectives on Cultural Psychiatry, Global Mental Health, and Social Determinants of Health**

*Poster Presenter: Seeba Anam, M.D.*

*Co-Authors: Kathryn Gunter, Colleen Stiles-Shields, Lala Park, Roberto Lewis-Fernández*

#### **SUMMARY:**

**Objective:** The purpose of this mixed methods pilot study was to examine the scope of training regarding cultural psychiatry, global mental health (GMH), social determinants of health (SDoH), and related topics in psychiatry residency programs in the US and Canada. **Methods:** Surveys were administered to psychiatry residents ( $n = 91$ ) regarding interest, availability, and satisfaction with training in cultural psychiatry, GMH, SDoH, and related topics. Qualitative data were collected via a focus group

with 17 participants (psychiatry residents and faculty from 13 institutions). The IRB approved exemption for this study. **Results:** Despite expressing strong interest in all cultural psychiatry, GMH, SDoH as well as other related topics, fewer than 50% received formal training within their residency programs (SDoH = 46.2%; mental health in low-resource settings = 45.1%; cultural formulation = 46.2%; immigrant mental health = 41.8%; mental health stigma = 39.6%; health equity = 37.4%). Survey results identified gaps between level of interest, availability of training, and satisfaction related to cultural psychiatry, GMH, and SDoH in psychiatry residency programs. Focus group participants noted limited structural investment in these topics, and lack of dedicated space, time, and integration into residency curriculum. Burden of championship, dissatisfaction amongst trainees and faculty, and limited sustainability were also highlighted.

**Conclusions:** Trainee interests in cultural psychiatry, GMH, and SDoH exceeded offered curricula in their training programs. Further research with diverse and representative stakeholders is needed to systematically identify and address modifiable barriers to training. As the marginalization of cultural psychiatry, GMH, and SDOH shape the training environment, neglecting these topics may exacerbate existing health inequities in mental health.

#### No. 34

##### **The Impact of Combinatorial Pharmacogenomic Testing on Outcomes in Black and Hispanic Patients**

*Poster Presenter: Morgan Saulsberry*

*Lead Author: Brent Mabey*

*Co-Authors: Lonna Mollison, Alexander Gutin, Sagar V. Parikh, M.D.*

#### **SUMMARY:**

**Introduction:** The clinical utility of combinatorial pharmacogenomic (PGx) testing has been demonstrated across several studies.<sup>1-3</sup> However, a majority of the patient population in these studies has consisted of individuals that self-report as white. To date, there have been no direct evaluations of whether combinatorial PGx testing is equally impactful across different races and ethnicities. Here, we present preliminary data on clinical

outcomes in patients enrolled in the **Genomics Used to Improve DEpression Decisions (GUIDED)** trial that self-reported as 1) Black or non-Black and 2) Hispanic or non-Hispanic. **Methods:** These two *post-hoc* analyses included patients enrolled in the GUIDED trial (N=1,167), grouped based on self-reported race (Black, N=165 vs. Non-Black, N=1,002) and ethnicity (Hispanic, N=91 vs. Non-Hispanic, N=1,076). All patients received combinatorial PGx testing and were randomized into treatment as usual (TAU) or combinatorial PGx-guided (PGx-guided) arms. Patients and raters were blinded to study arm. For patients in TAU, clinicians were blinded to test results until after the week 8 visit was completed. Medications on the test report were categorized based on the predicted level of gene-drug interactions [GDI, (i.e., none, moderate or significant)]. Outcomes at week 8 were assessed using the HAM-D17 rating scale [symptom improvement (% change from baseline), response (=50% reduction), remission (score of =7)], and were compared between TAU and PGx-guided arms.

**Results:** At baseline, the proportion of patients taking incongruent medications (significant GDI) was similar between Black (18.3%) and Non-Black (21.3%) groups, as well as Hispanic (16.7%) and Non-Hispanic (21.7%) groups. Though not all comparisons were statistically significant, patients in the PGx-guided arm showed improved clinical outcomes compared to TAU in Black (Symptom Improvement,  $\eta=6.78\%$ ,  $p=0.1498$ ; Response, Odds Ratio (OR)=1.91,  $p=0.1001$ ; Remission, OR=1.28,  $p=0.5943$ ), Non-Black (Symptom Improvement,  $\eta=2.31\%$ ,  $p=0.2241$ ; Response, OR=1.35,  $p=0.0453$ ; Remission, OR=1.66,  $p=0.0076$ ), Hispanic (Symptom Improvement,  $\eta=13.79\%$ ,  $p=0.0297$ ; Response, OR=2.98,  $p=0.0341$ ; Remission, OR=4.10,  $p=0.0453$ ), and Non-Hispanic (Symptom Improvement,  $\eta=1.88\%$ ,  $p=0.3048$ ; Response, OR=1.74,  $p=0.1951$ ; Remission, OR=1.66,  $p=0.0276$ ) groups. **Discussion:** These preliminary data suggest that there is a similar clinical need for combinatorial PGx testing across patients who self-report as Black, Non-Black, Hispanic, and Non-Hispanic. Additionally, patients who received treatment guided by PGx testing showed improvements in clinical outcomes regardless of self-reported race or ethnicity. However, the sample sizes in the current study are small especially for self-reported Black and Hispanic

groups, and statistical significance was not achieved for all comparisons. Future studies with larger sample sizes and more diverse patient populations will be needed to confirm the findings presented here.

### **No. 35**

#### **Innovation Supporting Child and Adolescent Psychiatry Postgraduate Training in Equity, Diversity, and Inclusion Principles**

*Poster Presenter: Nikhita Alisha Singhal, M.D.*

*Co-Authors: Rajeevan Rasasingham, M.D., Chetana Kulkarni, M.D.*

#### **SUMMARY:**

**Background:** Amidst our current social climate, with the ongoing COVID-19 pandemic and greater attention on racial injustice, there has been increased discourse around the longstanding historic and systemic social inequities impacting children's and adolescents' mental health. Multifactorial influences (including genetics, race, sex, cognitive aptitude, parenting, socioeconomic resources, community supports, and culture) often intersect and compound, resulting in vastly differential health outcomes and disparate experiences between different marginalized demographic groups. Despite this, equity, diversity, and inclusion (EDI) principles — such as unconscious bias, concepts of power/privilege, allyship, and microaggressions — have not been a major component of Canadian child and adolescent psychiatry (CAP) training. Addressing this educational gap is needed to ensure that future CAP learners are equipped to bridge the current disconnect between clinical work and health/social inequities, with the ultimate objective of improving clinical care. Our objective is thus to develop and evaluate a series of evidence-informed virtual educational modules focused on EDI themes relevant to CAP. **Methods:** The project will begin with an environmental scan/needs assessment of national CAP EDI curricula (including a sampling of program directors, past and present psychiatry residents, and individuals with lived experience in the mental health system). This process will also involve exploring the perceived and unperceived EDI learning needs, exploring facilitators, barriers, and motivation for change within the various programs.

Following this, we will design and develop a series of online learning modules addressing CAP EDI educational gaps identified through the aforementioned needs assessment. We will then pilot test, evaluate, and iteratively fine-tune these modules using Kirkpatrick's levels of training criteria. This will be followed by local and national dissemination, with the goal of promoting EDI teaching and learning among postgraduate trainees in CAP (and the potential to adapt these modules to make them more broadly applicable to training and continuing education for a variety of interdisciplinary healthcare professionals). **Results:** Our preliminary scan of focus groups has shown the following areas of need: culturally-informed interviews and biopsychosocial formulation, trans/LGBTQ-sensitive practice, Indigenous mental health, mental health in racialized populations, and trauma-informed care. In the coming months, we will have gathered data from the initial needs assessment surveys and be initiating module design. **Conclusion:** This project will hopefully result in novel educational innovation incorporating asynchronous learning modules in EDI into the existing curricula of CAP trainees and healthcare professionals more broadly.

### **No. 36**

#### **Developing a Clinical Decision Unit to Provide Timelier Access to Psychiatric Inpatient Admission**

*Poster Presenter: Elizabeth Caine, M.B.A.*

*Co-Author: Nina Kraguljac, D.O.*

#### **SUMMARY:**

UAB Hospital is a large urban academic medical center that operates a 108 bed psychiatric hospital, the Center for Psychiatric Medicine. The Center for Psychiatric Medicine serves adolescent, adult and geriatric patients that need inpatient psychiatric stabilization. The Center for Psychiatric Medicine averages 2,300 inpatient discharges per year and approximately 32,000 patient days. Approximately 2,700 patients visit our Emergency Department and require psychiatric emergency consultation. Like hospitals across the United States, many psychiatric patients board in our Emergency Department awaiting an inpatient bed. At UAB, psychiatric patients often occupy an entire nine bed pod in the Emergency Department. To prepare for the potential

surge of COVID-19 patients, UAB Center for Psychiatric Medicine opened a 12 bed clinical decision unit to offload the UAB Emergency Department. A broad interdisciplinary team worked for one week to open a 12 bed unit to serve the psychiatric population presenting with psychiatric emergencies to the UAB Emergency Department, thereby freeing up an Emergency Department pod to receive the potential surging influx of patients diagnosed with COVID-19. Efficacy was measured by comparing pre and post pandemic boarding hours. In addition, surveys were conducted to collect staff perceptions of successes and patients' perceptions of care. Emergency Department boarding pre-pandemic averaged 3,045 hours per month. After opening the unit in March 2020, boarding decreased to an average of 1,133 hours per month. Staff identified a number of successes, including improving the admission process, and the availability of increased numbers of experienced psychiatric staff to assist with behaviorally challenging patients. The staff also identified the patients gaining quicker access to the therapeutic environment as a success. The three key elements of the therapeutic environment included: 1) the unit design which allows for safety and movement and diminished ligature risks, 2) the patients have access to amenities such as group therapy and access to the patio and gymnasium and 3) timelier access to psychiatrically trained staff. Patients' perceptions of care identified successes as 1) timelier access to care, 2) access to more comfortable amenities such as showers and 3) compassionate care givers. While the COVID-19 Pandemic was the impetus for creating a clinical decision unit for the psychiatric population, we recognize that we have been able to ultimately provide timelier, therapeutic care to patients experiencing psychiatric emergencies. Ultimately, the decrease in boarding hours has not been sustained due to the mental health crisis that the COVID-19 Pandemic has now created in our communities yet we have continued to provide care in this manner and plan to continue to do so.

**No. 37**

**Ice, Ice Baby: Methamphetamine Use, Voluntary Intoxication, and Specific Intent**

*Poster Presenter: Jason Barrett*

*Co-Authors: Christopher Paul Marett, M.D., M.P.H.,  
John Henning*

**SUMMARY:**

Mr. G is a 35-year-old man with a history of stimulant use disorder and methamphetamine use. He is accused of kidnapping in a jurisdiction that requires specific, rather than general, intent for the crime. He reported to his attorneys that shortly preceding and during the time of the alleged kidnapping, he had symptoms of intoxication from methamphetamine. Particularly, he shared that the batch of methamphetamine may have been cut with "wasp dope," a substance created by electrifying wasp spray to crystalize then smoke it. Mr. G's attorneys requested a forensic psychiatric evaluation to determine whether Mr. G's symptoms related to substance use had impaired his ability to form specific intent for kidnapping. This case illustrates the challenges of conducting a forensic evaluation for a relatively rare type of defense, that of voluntary intoxication. In most cases, voluntary substance use with known and predictable effects of the drug is not exculpatory. Yet some jurisdictions will consider a voluntary intoxication defense when substance use negates the capacity to form specific intent. Psychiatrists that perform such evaluations must be aware of the clinical and physiological effects of drugs, including new or uncommonly used ones like "wasp dope," and they must be attuned to common elements of criminal forensic assessment. The examiner should undertake a careful assessment of the impact substance use has on functioning, particularly on planning and executive functioning, and contrast any similar intact capabilities. This poster reviews the types of crimes that may require specific intent and be amenable to possible voluntary intoxication defenses. It presents information on "wasp dope" and "wasping," a relatively recent trend related to methamphetamine use. Further, it uses the above case to illustrate strategies to use and clues to look for in completing these assessments. Finally, it briefly reviews other potential criminal forensic implications of methamphetamine use.

**No. 38****Mood Disorders in Adolescents in Conflict With the Law and in Custody**

*Poster Presenter: Eduardo Guilherme*

**SUMMARY:**

**Objective:** Know the prevalence of Mood Disorders and their relationship with serious criminal acts in the population of adolescents in conflict with the law under the custody of the CENSE (Socio-education Center for underage offenders), in the metropolitan region of Curitiba, Brazil. Method: 123 inmates and their respective guardians were interviewed. This population comprised male individuals aged 15 to 17 years old. The study included individuals who were sentenced or temporarily detained, serving a socio-educational measure depriving their freedom. Adolescents diagnosed with intellectual disabilities and pervasive developmental disorders were excluded. The interview was conducted by the medical researcher executing the project, a specialist in Forensic Psychiatry; the Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime (K-SADS-PL) was used, which is a semi-structured psychiatric interview to identify disorders in the age group between 6 and 18 years. Results: In this study, the most prevalent psychiatric disorders were similar to the same psychopathological profile observed in several similar studies in other countries and in Brazil. Mood Disorders had a high prevalence in this population, being diagnosed during the current episode in 15.9% of the sample, becoming the most prevalent syndrome after Alcohol and Drug Dependence Disorders 22.9% and Disruptive Disorders 31.8%. The psychopathological profile observed in this study in relation to adolescents who committed “violent crimes”, confirms other studies that have found a high prevalence of Mood Disorders in this population. Conclusion: This research confirms the high prevalence of Mood Disorders found in several studies in different countries when adolescents in conflict with the law and in custody are evaluated. The relationship of Mood Disorders with some violent offenses has been demonstrated, thus Mood Disorders can be seen as one of several elements that can predispose to transgressive behavior in adolescents.

**No. 39****An Analysis of Proposed Laws Banning Gender Affirming Care for Minors and Their Impact on Mental Health**

*Poster Presenter: Harshit Sharma, M.D.*

*Co-Author: Vivek Datta*

**SUMMARY:**

**Background:** In March 2021, Arkansas became the first state to pass into law a bill banning gender-affirming care for minors, following similar bills which have been introduced in 20 states across the US. These bills have received widespread criticism from numerous professional organizations and contain provisions for civil and criminal penalties for healthcare providers who provide care such as prescribing puberty blockers and gender-affirming surgery for minors. Methods: Qualitative analysis of 51 bills introduced in states across the U.S., categorized based on their provisions for restricting access to or banning gender-affirming care for minors. Results: 45.1 % of these bills classify gender-affirming care as professional misconduct and grounds for revoking medical licensure, 25.5% as a felony, 29.4% as child abuse. 3.9% of bills seek to restrict government funding for such care and 11.8% of bills seek to prohibit malpractice insurances from providing coverage for such care. Notably, 11.8% of these bills directly impact mental health and counseling services relating to gender dysphoria. Conclusions: The justification for these measures is based on the states’ responsibility to protect minors from potentially dangerous medical treatment. However, they represent an intrusion of the physician-patient relationship effectively censoring physicians from advising patients about available treatment options. These bills may violate the first amendment’s protection of free speech, the fourth amendment’s right to privacy, and the fourteenth amendment’s equal protection clause. They also present ethical challenges for physicians and clash with existing scientific guidelines. We argue that tort law already protects minors from negligent gender-affirming care and these bills should be understood and challenged in the context of a new wave of anti-transgender legislation.



**No. 40**

**Trans and Incarcerated: Mental Health Disparities Among Transgender Inmates**

*Poster Presenter: Harshit Sharma, M.D.*

**SUMMARY:**

Transgender individuals encounter higher levels of discrimination, incarceration, substance use and mental health issues than their cisgender counterparts. Once incarcerated, transgender individuals face a higher prevalence of victimization and violence, which leads to poorer health outcomes for this population. These forms of violence are associated with depression, anxiety, PTSD and substance use, which are seen at a disproportionately higher rate in transgender individuals both with and without incarceration histories. Incarcerated transgender individuals face both structural as well as individual level barriers in access to health needs including hormone treatment, gender affirming surgeries and mental health services. Inadequate access to these services has historically led to dire consequences such as auto-castration and suicides in transgender inmates. This poster reviews the current literature on the mental health needs and disparities facing transgender incarcerated individuals as well as lawsuits brought by them in this context. Identifying these disparities can contribute towards better serving the unique mental health needs of this vulnerable population.

**No. 41**

**Age-Associated Improvement in Mental Distress in Gender and Sexual Minorities**

*Poster Presenter: Adrienne L. Grzenda, M.D., Ph.D., M.S.*

**SUMMARY:**

**Objective:** Data are inconsistent on the mental health of older gender and sexual (SGM) minorities. The current study used a large population-based sample to investigate the moderating effect of age on mental distress in SGM adults compared to their heterosexual, cis-gendered counterparts. **Methods:** Data were pooled from five cycles of the Behavioral Risk Factor Surveillance System (2014-2018) survey (N=762,541). Adjusted mean days of mental distress

and probability of frequent mental distress (= 14 days in the last month) were calculated for each age and sexual orientation and gender identity (SOGI) strata by linear and logistic regression, respectively, controlling for sociodemographic, healthcare coverage, and chronic medical conditions. Sub-analysis was performed on the =55-year-old subpopulation to evaluate additional risk factors for frequent mental distress in older respondents.

**Results:** Controlling for all other covariates, mean days of mental distress and probability of frequent mental distress were significantly higher for SGM subgroups compared to heterosexual peers among 18 to 24-year-olds. No differences, however, were noted within the 55 to 65-year-old and 65+-year-old strata. In the sub-analysis of older respondents, males but not females endorsed differed in rates of frequent mental distress. Avoidance of needed medical care due to costs and lack of exercise increased risk for frequent mental distress in nearly all SGM subgroups, regardless of sex. SGM females displayed increased risk with excessive alcohol use, while bisexual and gender diverse males showed increased risk with lack of exercise and weight. **Conclusions:** Respondents 18 to 24 years of age reported the highest levels of mental distress, with differences related to SGM status less detectable with increasing age. Compared to prior studies, older SGM adults experienced less reported disparity in healthcare access and medical condition burden. Risk factors for frequent mental distress varied by sex and identity status, indicating a need for increased intersectional research to assist in intervention and prevention.

**No. 42**

**Age-Related Medical Complexity in People With Serious Mental Illness**

*Poster Presenter: Sharat P. Iyer, M.D.*

**SUMMARY:**

**Introduction** People with serious mental illness (SMI) have more medical co-morbidity and complexity than the general population. Prior work has not focused on change in this complexity with increasing age. **Methods** This study combined data from two annual US national health care surveys conducted by the Centers for Disease Control and Prevention, the

National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS), which include data abstracted from outpatient visits. A variety of measures of medical complexity were assessed, including the number of medical co-morbidities, the number of prescribed medications, the Charlson co-morbidity index, and the number of past visits to the same provider in the last year. Differences over age in medical complexity were identified for people with versus without SMI diagnoses by using negative binomial and logistic regressions and interaction effects. **Results** A significant interaction effect was found between SMI diagnosis and age for analysis of total number of chronic conditions and prescribed medications, but in the opposite direction than expected. The natural age-related increase in number of chronic conditions and the number of medications was lower for visits with SMI diagnosis than those without, such that at higher age deciles, visits for people with an SMI diagnosis were predicted to have a lower number of conditions and medications than visits for those without an SMI diagnosis. **Conclusions** This unexpected finding may be due to a number of different reasons. The higher age-adjusted mortality for people with SMI may mean individuals with SMI who survive longer have less medical complexity. People with SMI may also develop a greater resiliency as they age, either due to unidentified genetic or biological protective factors or due to psychological adaptation to their chronic condition. Additionally, the shift of older individuals with SMI and co-morbidity into nursing homes may have led to them dropping out of the study population. Future research should use longitudinal data to better understand the relationships between these factors and age-related medical complexity in people with SMI.

#### **No. 43**

#### **Disparities in Administering Patient Health Questionnaire-9 (PHQ-9) and Providing Further Follow-Up to Patients With Medicare**

*Poster Presenter: Helen Wonjai Kim, B.A.*

*Co-Author: Elisabeth Siegert, M.D.*

#### **SUMMARY:**

**Background** Based on the secondary analysis of data from the 2012-2013 National Ambulatory Medical Care Survey, only 4.2% of adults were screened for depression. Specifically, elderly patients were half as likely to be screened for depression compared to middle-aged patients (Akincigil *et al.*, 2017).

Moreover, according to the American Foundation for Suicide Prevention, the highest suicide rate in the US was in the age group of 85 years or older (2019). The rising suicide rates in the elderly population could be due to a lack of depression screening and inadequate follow-up care for geriatric depression.

To mitigate this issue, the Center for Medicare and Medicaid Services (CMS) currently requires primary care physicians (PCPs) to conduct annual wellness visits, which include depression screening, for patients who are 65 years or older with Medicare. PCPs at Cooper University Hospital in Camden, New Jersey, selected Patient Health Questionnaire-9 (PHQ-9) as their main depression screening tool.

**Objectives** In this retrospective chart review, we will explore the following: 

- <ul dir="ltr"> If there is any disparity (age subgroups, sex, race, and ethnicity) in administering PHQ-9 to this patient population
- If patients with high PHQ-9 scores receive proper follow-up options
- If patients with high PHQ-9 scores have other common comorbid illnesses
- How well the PCPs identify undiagnosed depression with PHQ-9.

**Methods:** The Institutional Review Board (IRB) reviewed and approved this study prior to the start of this chart review. Using the billing code for the Medicare annual wellness visits, we acquired a list of patients aged 65 or older with Medicare coverage who underwent Medicare annual wellness visits between 1/1/2020 to 12/16/2020. Subsequently, a retrospective chart review for 380 patients is currently being conducted. Once the chart review for 380 patients is completed, Chi-Square tests will be used for statistical analyses.

**Results:** The results will be discussed later. **Conclusions:** Although it is crucial to annually screen elderly patients with depression, it is also significantly important to provide proper follow-up care for elderly patients with suspected depression. Like how other common comorbid illnesses are chronically monitored and treated, it is important for physicians to acknowledge depression as another chronic illness

and provide adequate support and care for elderly patients with suspected depression.

**No. 44**

**The Impact of COVID-19 on Mental Health Trends in Higher Education**

*Poster Presenter: Meghana Damaraju, B.S.*

*Lead Author: Liat Jarkon, D.O., M.P.H.*

*Co-Authors: Raja Mehta, D.O., Zachary Piazza, B.S.*

**SUMMARY:**

During 2020 the COVID-19 pandemic brought about nationwide social and economic changes. It altered human interaction and how we view illness, especially on college campuses that made the switch to online-only education. This article's main objective is to compile mental health trends from March 2019 to March 2021 in relation to the changing social structure and increased isolation brought on by the pandemic in the setting of higher education. Data from several literature articles was combined and analyzed to look for changes in mental health over several demographics: gender, ethnicity, age, socioeconomic status, and completed level of education. Among these various demographics there was a statistically significant change in mental health that included an increase in anxiety, depression, and suicide risk from 2019-2021. These findings can be attributed to increased stress from economic pressure and social isolation to different demographics of students. The purpose of this paper was to shed light on these mental health trends in order to properly address post pandemic outcomes and adequately prepare our higher education behavioral health personnel for future pandemics.

**No. 45**

**A Case Study on Effective Collaboration Between Psychiatry and Case Management in an Outpatient Setting**

*Poster Presenter: Robert A. Gadomski, D.O.*

*Co-Authors: Marissa O. Goldberg, D.O., Ryan Flynn*

**SUMMARY:**

*Introduction* As a whole, it is important for outpatient psychiatrists to factor in the social determinants of health when assessing and treating patients. For example, it is well-documented that the

impact of poverty, low-quality education, and community violence drastically effect the mental well-being of patients.<sup>1</sup> A variety of case management systems emerged over the last five decades to address social determinants of mental health.<sup>2</sup> Despite the role of case management in reducing psychosocial issues for psychiatric patients, there is little research around the working relationship between outpatient psychiatrists and case managers.<sup>3</sup> The following case report will highlight how outpatient psychiatrists may leverage the presence of a case manager to improve mental health outcomes for their patients. *Case Report* Ms. B was a 60-year-old female who presents for outpatient treatment for individual therapy and medication management. She had a history of schizophrenia with multiple inpatient hospitalizations, diabetes, and hypertension. Ms. B lived at home with her elderly mother in a resource-deprived neighborhood of Philadelphia. Given the complex and intricate nature of Ms. B's mental health issues, physical health problems, and psychosocial stressors, she received daily home health care services and case management services. The case manager and psychiatrist able to work together to create a treatment plan which consisted of weekly therapy sessions, modified medication regimen, and group therapy. As a result, Ms. B made significant clinical improvements in the outpatient setting so that she was able to remain at home with her mother. *Discussion* A strong working relationship between psychiatry and case management is beneficial in several ways. First, inclusion of a case manager in the psychiatric interview allows for a more rapid and holistic collection of data around medication issues.<sup>4</sup> In addition, linkage with case management is strongly associated with individuals experiencing better outcomes in employment and housing.<sup>5</sup> Likewise, case management perspectives can aid in the development of patient goals and treatment plans. Finally, case managers can play a role in reduction of treatment engagement issues by monitoring the patient's overall psychiatric care.<sup>5</sup> For instance, providing reminders for appointments, connecting them to transportation resources, and having meaningful dialogues with the patient around their feelings on medications can increase patient engagement in their treatment of their psychiatric condition. *Conclusion* Overall, effective collaboration

with a patient's case manager is important for providing quality psychiatric outpatient treatment. In addition, a team-based approach involving a case manager can improve outcomes with social issues impacting care, including employment and housing. Further research is needed to explore the different ways in which case management and psychiatry can effectively collaborate on patient care.

#### **No. 46**

##### **Social Factors Increasing Risk for Mental Health Conditions Resulting in Separation From the United States Navy**

*Poster Presenter: Aaron M. Van Dyne, M.D.*

*Co-Author: Savannah Woodward, M.D.*

##### **SUMMARY:**

In the US Military, psychiatrists are routinely referred to as "wizards" as they are known amongst active duty service members for "making people disappear." Unlike our civilian counterparts, one of military psychiatry's outcome measures is separation for mental health conditions. During fiscal year 2008 alone, 20.7% of US Navy Sailors failed to complete their first enlistment term,<sup>1</sup> and we know that in general about 40% of administrative separations are performed due to mental health conditions (specifically adjustment disorders). A 2006 study of attrition during boot camp demonstrated a correlation between higher rates of attrition due to mental health and older age at time of enlistment, female sex, and being Caucasian or Native American<sup>2</sup>. Until now, there has been no further research examining the social factors increasing a person's risk for a mental health condition that results in administrative separation, and there has been no recent literature published on the topic. Using a retrospective case control design, this study examines the social factors that impact development of an adjustment disorder and subsequent military separation including age, sex, race, marital status, and specific occupation within the military. We will also discuss application of these results to include early intervention and targeted mental health campaigns as well as education for military leaders. References: Enns, John H (2012). *Cost Attrition: Army and Navy Results for FY 2008* [Master's Thesis]. Naval Postgraduate School. Condon, Nancy and John

Eckenrode (2006). *Study of Attrition Documentation at the U.S. Navy Recruit Training Command* [Master's Thesis]. Naval Postgraduate School.

#### **No. 47**

##### **Can Intranasal Oxytocin Help Self-Perception of Pain? Results of a Meta-Analysis**

*Poster Presenter: Flávia Osório*

*Co-Author: Samuel Lopes*

##### **SUMMARY:**

Oxytocin (OXT) is a peptide hormone produced in the hypothalamus, which plays a neuromodulatory role in the central nervous system, directly interacting with neurologic circuits for processing pain in the cortex, acting in the nociceptive transmission of peripheral pathways. Furthermore, it modulates the experiences of stress and anxiety, which may have an indirect impact on the perception of pain, becoming a therapeutic target for its control. A meta-analysis was performed to seek evidence of the effects of intranasal administration of OXT (vs. placebo) on clinical and experimental pain self-perception (intensity) in humans. A systematic search was carried out in the electronic databases Pubmed, PsychInfo, Scielo, Lilacs and Web of Science, using the keywords Oxytocin, Pain, Analgesia and Nociception. A total of 2227 references were examined, 23 articles checked for adequacy and 13 included in the meta-analysis. 764 healthy adult participants and 118 with different clinical pain conditions were analyzed. OXT was administered acutely (N=10) or continuously (N=3), at dosages of 40 IU (N=6), 32 IU (N=1) or 24 IU (N=6). The meta-analytic measure of the effect size of differences showed low heterogeneity between studies ( $I^2=10.68\%$ ;  $Q=24.63$ ,  $p=0.31$ ), and lack of significance for the pain intensity outcome (SMD= -0.02; 95% CI: -0.14 to 0.10,  $p=0.76$ ). Subgroup analyzes indicated that the differences were also not significant in specific samples of healthy participants (SMD= -0.07; 95% CI: -0.22 to 0.07,  $p=0.33$ ;  $Q=20.72$ ,  $p=0.15$ ;  $I^2= 27.61\%$ ) or the clinical group (SMD= -0.02; 95% CI: -0.34 to 0.29;  $Q=3.91$ ,  $p=0.88$ ;  $I^2=0\%$ ), or when considering only the acute administration of OXT (healthy: SMD= -0.07; 95% CI: -0.22 to 0.07,  $p=0.33$ ;  $Q=14.18$ ,  $p=0.36$ ;  $I^2=8.35\%$ ). Although some individual studies pointed out significant differences

in favor of direct analgesic effects of OXT, the meta-analytic measure of the effect size of the differences was not significant. Other pain-related outcomes should be considered and evaluated in future studies, given the multidimensional character of this phenomenon, as well as the indirect effects of the substance.

#### **No. 48**

##### **Effect of Pre-Rounds Yoga Routine on Trainees on Inpatient Service: A Survey Result With Literature Review**

*Poster Presenter: Karim A. R. Hebishi, M.D.*

*Co-Author: Kylie Nowicki*

#### **SUMMARY:**

Background: Yoga is a non-pharmacological mindful based exercise that has shown benefit on mental health in multiple studies. Workplace yoga programs were studied in different settings in healthcare. A brief pre-rounding yoga routine was introduced at inpatient neurology rotation since the start of COVID pandemic in an attempt to decrease burnout and to improve work atmosphere. We have surveyed residents and medical students to collect their perception of effect of this routine on their wellbeing during neurology rotation. This is a pilot for a case control study to compare responses from this survey with responses from other inpatient rotations. Methods: A deidentified survey form was created and sent out to every resident who completed a neurology rotation since the beginning of 2020. This included internal medicine, psychiatry and physical medicine and rehab residents. The survey was also sent to third year medical students who completed their neurology rotation. The survey questions explored: 1- change in exercise routine after the rotation 2- perception of work environment during neurology rotation 3- perception of stress level during neurology rotation. Results: 22 trainees participated in the survey. 45.5% rated their overall experience on neurology as very positive, 22.7% as positive, 27.3% as neutral and 4.5% as negative. 13.6% stated they increased their stretching and yoga routines during their neurology rotation, 9.1% stated they started practicing yoga routinely, 72.7% reported no change in workout routine 22.7% rated their stress level at 2 out of 5

while 31.8% at 3, 22.7% as 1 and 9.1% rated at 4-5. 4.5% rated as 5/5 9.1% has reported increasing their yoga time after finishing neurology rotation. 86.4% reported no change in their workout routine after finishing the rotation and 4.5% started doing yoga routinely. 45.5% rated their work environment during their rotation as nurturing, 50% rated as supportive and 4.5% rated as not supportive. Conclusion: pre-rounds yoga maybe helpful in improving team dynamic, overall wellbeing and at decreasing levels of stress of trainees. A comparative study to no yoga routine will be conducted by our team.

#### **No. 49**

##### **Factors Associated With Seclusion and Restraint Events at a State Psychiatric Hospital: A Multinomial Logistic Regression Analysis**

*Poster Presenter: Madeline Elaine Lodeiro, M.D.*

*Co-Authors: Faisal Akram, M.D., Ankur Sah Swarnakar, M.D., Fahad Mukhtar, M.D.*

#### **SUMMARY:**

Introduction: Previously we found that having a prior episode of restraint/seclusion was a significant modifiable predictor for subsequent readmission among psychiatric patients. We undertook this study to identify predictors of restraint/seclusion among the same study population with emphasis on modifiable predictors including early initiation of long-acting injectable (LAI) measured as time to LAI (TLAI). **Methods:** Civil and forensic patients 18 years and above who were admitted to the psychiatric facility between 2012-2017 were included in the study. Using multinomial logistic regression with episodes of R/S categorized as "0", "1-2", and "3 or more" as our DV and TLAJ as our IV, we explored our study hypothesis adjusting for demographic and clinical variables. All models were adjusted for age and sex. A P-value cut-off of 0.05 was used for statistical significance. **Results:** Our sample size comprised of 741 patients. Most of the patients were male (71%), forensic admissions (73.5%) with a primary diagnosis of schizophrenia and other psychotic disorder (57%). About 81% did not receive LAI. TLAJ was not significantly associated with R/S episodes (OR=0.99, 95% CI=0.99-1.00). Antipsychotic medication significantly reduced the risk of 3 or

more R/S (OR=0.47, 95% CI=0.24-0.92) but not 1-2 R/S (OR=0.74, 95% CI=0.37-1.49). Patients with impulsive/compulsive disorder, substance use disorders, and those living in supervised facilities prior to admission had the strongest risk of 3 or more R/S. **Conclusion:** Contrary to our hypothesis, early initiation of LAI was not associated with a lower risk of R/S. Use of antipsychotic medications, older age, and medical comorbidities were the only factors associated with R/S. Reservation of LAI to individuals with significant psychopathology or their delayed onset of action may account for the observed findings.

#### No. 50

##### **Impact of Psychosocial Stress on Obesity in Low-Income Populations in the United States**

*Poster Presenter: Jack Ohringer*

#### **SUMMARY:**

**Background:** Obesity is a non-communicable disease that has severely affected low-income communities in the United States. Psychosocial stress is a broad term, but in the context of this poster, it can be considered stress that results from being low-income in the United States. Current research focusing on obesity disparities does not place enough emphasis on the role of psychosocial stress.

**Methods:** A literature review was conducted to assess the current trends in obesity literature. Following this review, a model was created to demonstrate how psychosocial stress influences obesity in low-income populations through the intervening (or mediating) variables of nutrition, physical activity, Hypothalamus-Pituitary-Adrenal (HPA) axis activation. **Findings:** At the population level, psychosocial leads directly to lower nutritional status, decreased physical activity levels, and increased HPA axis activation, which each separately contributes to obesity. Additionally, each of these factors impacts the other, strengthening the connection between psychosocial stress and obesity. For example, psychosocial stress leads to decreased levels of physical activity, which leads to obesity and also leads to poor nutritional intake (and consequentially lower nutritional status leading to obesity) as well as physiological dysregulation (and consequentially HPA axis activation leading to

obesity). The relationships between psychosocial stress and these factors are not unidirectional but rather create cyclic relationships that perpetuate obesity due to stress in a highly proliferative manner. **Conclusions:** Psychosocial stress should be considered a key risk factor for obesity and may account for obesity disparities among individuals and communities that are disproportionately affected by this chronic stress. Clinically, the psychosocial context of patients suffering from obesity should be considered more actively.

#### No. 51

##### **The Impact of Long-Term Treatment With Viloxazine Extended-Release Capsules (Qelbree™) on Executive Function in Adults With ADHD**

*Poster Presenter: Azmi Nasser, Ph.D.*

*Lead Author: Jonathan Rubin*

*Co-Authors: Joseph T. Hull, Ph.D., Brendan Lujan, Soumya Chaturvedi*

#### **SUMMARY:**

**Background:** Attention-deficit/hyperactivity disorder (ADHD) is a common neurodevelopmental disorder that is frequently diagnosed in childhood and typically persists into adulthood. In addition to the core symptoms, ADHD is often associated with executive function (EF) deficits. EF includes an array of cognitive processes that allow a person to control their behavior and achieve their goals. In adults with ADHD, EF deficits may be manifested as difficulty in organizing information, planning, sustaining attention, working memory, emotional control, and inhibiting inappropriate thoughts and behavior. The objective of this analysis was to determine whether long-term treatment with viloxazine extended-release capsules (viloxazine ER; Qelbree™) improves executive functioning in adults (18–65 years of age) with ADHD. **Methods:** The Behavior Rating Inventory of Executive Function – Adult Version (BRIEF-A) was used to evaluate EF during an ongoing, long-term, Phase 3, flexible-dose, open-label extension (OLE) safety study of viloxazine ER in adults with ADHD. All subjects who completed the double-blind study received viloxazine ER in the OLE study. During the first two weeks of OLE, subjects took viloxazine ER 200 mg/day. Thereafter, the investigator could adjust the dose in increments of 50, 100, 150, or 200

mg/day/week to a target dose of 200----600 mg/day based on the subject's clinical response and tolerability. The change from baseline (CFB) in the BRIEF-A Global Executive Composite (GEC) T-score at the final visit was analyzed using a paired t-test. **Results:** Of the 354 subjects who completed the Phase 3, double-blind, placebo-controlled study, 160 received viloxazine ER in this OLE. The median dose of viloxazine ER recorded at the subject's most recent visit of the ongoing OLE was 400 mg. In the OLE, the BRIEF-A GEC T-score was lower (i.e., improved) in the first month and continued improvement over time. The mean ( $\pm$  standard deviation) CFB BRIEF-A GEC T-score at last visit was  $-10.9 \pm 12.2$  and was statistically different ( $p < 0.0001$ ;  $n = 121$ ) compared to baseline for all subjects receiving viloxazine ER in the ongoing OLE. **Conclusions:** The BRIEF-A results from the OLE are consistent with the results from the Phase 3, double-blind, placebo-controlled study that demonstrated viloxazine ER significantly improves executive functioning over a period of six weeks in adults with ADHD. Additionally, these data are in agreement with the results from the pediatric Phase 3 pivotal trials that indicated viloxazine ER improves executive functioning in children and adolescents with ADHD. The OLE data also indicate that adults with ADHD exhibit further improvement in executive functioning during long-term treatment with viloxazine ER.

## No. 52

### Psychiatry and Prolactin—a Review of Literature

Poster Presenter: Tulasi S. Goriparthi, M.D.

#### SUMMARY:

Psychiatrists tend to underestimate the prevalence of key symptoms associated with hyperprolactinemia<sup>[1]</sup>. Prolactin in CNS is secreted by Lactotrophs in Adenohypophysis. Function includes breast enlargement and milk production. It reduces Libido and fertility. In absence of breast-feeding, levels fall to normal within 3 weeks after child birth or after several months in breast-feeding women. Stimulatory factors include estrogen, Oxytocin, Serotonin and TRH. Dopamine is the predominant prolactin-inhibiting factor. Dopamine binds to dopamine D2 receptors on lactotrophs decreasing Prolactin production. Prolactin auto

regulates itself. Hyperprolactinemia - Fasting levels of serum Prolactin above 20 ng/ml in men, and above 25 ng/ml in women<sup>[2]</sup>. Prolactinomas are the most common cause of Hyperprolactinemia. False positive hyperprolactinemia is also due to Macroprolactin which is physiologically inactive and is bound to IgG. Consequences of hyperprolactinemia include menstrual disturbances, fertility disorders, Galactorrhea/ Gynecomastia, sexual dysfunction, Hirsutism, Obesity and Osteoporosis. There are several reports associating breast cancer with Hyperprolactinemia, however the evidence is inconclusive. First generation antipsychotics: Estimated prevalence in people taking conventional antipsychotics is 42.4% in men and 59.2% in women<sup>[3]</sup>. Second generation Antipsychotics: Meta-analysis of 212 blinded, RCTs ( $n = 43,049$ ), comparing the efficacy and tolerability of 15 antipsychotic drugs in Schizophrenia<sup>[4]</sup>. The ranking in order of Hyperprolactinemia presented by these authors: Paliperidone > Risperidone > Lurasidone > Ziprasidone > Iloperidone > Olanzapine > Asenapine > Placebo > Quetiapine > Aripiprazole. What to do: Spanish Consensus article published Feb 2017<sup>[5]</sup> with 18 experts in Psychiatry, Internal medicine, Endocrinology and Oncology. Strategy 1. Decreasing the dose of the antipsychotic: Simplest strategy but is not without risk of relapse. Strategy 2. Changing the antipsychotic drug: Switching from a higher risk antipsychotic to a lower risk antipsychotic. Would this be enough? Strategy 3. Addition of Aripiprazole: Adjunctive Aripiprazole 5 mg/day can lead to 79% normalization rate of prolactin levels. Strategy 4: Addition of dopaminergic agonists: Most controversial. Data suggests that it can aggravate psychosis and aggressiveness. Cabergoline is preferable to Bromocriptine. Strategy 5. Another type of treatment: Alternative and symptomatic management can also be attempted. Estrogens or testosterone for hypogonadism and/or decreased BMD, PDE5 inhibitors for erectile dysfunction, promoting healthy diet and physical exercise, avoiding tobacco and alcohol, for amenorrhea>6 months OCPs can be given to prevent osteoporosis, If low Vitamin D levels, then supplementation etc Psychiatrists need to work corroboratively with other specialties of Medicine and keep abreast of recent evidence base to manage this problem.

**No. 53****Profound Anemia Induced by Lamotrigine in a 16-Year-Old Female With Sickle Cell Trait and Mood Disorder: A Case Report and One-Year Follow-Up**

*Poster Presenter: Sultana Jahan, M.D.*

**SUMMARY:**

**Abstract:** Introduction: Lamotrigine is an antiepileptic drug (AED) of the phenyltriazine class with inhibitory effects on voltage-sensitive sodium channels, leading to an inhibition in the release of glutamate and resulting in a general inhibitory effect on cortical neuronal function. Lamotrigine is also a weak dihydrofolate reductase inhibitor. The drug is approved by the US Food and Drug Administration for maintenance treatment of bipolar type I disorder in adults. There have been reports of hematologic adverse effects with Lamotrigine therapy. This case report describes a 16-year-old female who developed profound anemia while on Lamotrigine therapy. Method: Ms. X was a 16-year-old African-American female with sickle cell trait & mood disorder referred by the Division of Youth Services (DYS). Her medication regimen included lamotrigine 200 mg in the morning, aripiprazole 5 mg in the morning, and mixed amphetamine salts extended-release 30 mg in the morning. While at DHS, she developed fatigue and headaches with exertion. Her blood work detected a very low hemoglobin level of 3.1 g/dL and a very low hematocrit of 10.9%. Her MCV, MCH, & MCHC were within the normal range. The remainder of her blood count and other labs were within normal limits. The patient's blood pressure was 105/70 mm Hg, & her pulse was 109. The patient was sent to the local emergency room immediately; upon hospital admission, she received 4 units of packed red blood cells via transfusion. Results: After a blood transfusion, the patient's hemoglobin level improved to 9.7 g/dL. The patient's symptoms had improved significantly; her headaches and fatigue with exertion were gone. It was suspected that her profound anemia was induced by Lamotrigine. She was discharged from the hospital with instructions to stop Lamotrigine and visit a hematology specialist. Several weeks later, she underwent a hematologic evaluation, including a bone marrow biopsy and genetic testing, which were

unremarkable. Her hemoglobin level remained stable. Conclusion: The patient's anemia resolved after the discontinuation of lamotrigine. The patient was followed for 1 year with blood work performed every few months. Her hemoglobin level did not drop further and in fact slowly increased to 13.9 g/dL spontaneously over the next year. In the literature, there have been reports of blood dyscrasias that may or may not be associated with hypersensitivity syndrome in patients who take lamotrigine. Considering hematologic adverse effects, it may be prudent to consider a baseline blood count before starting lamotrigine and repeat this test 3 to 6 months after initiation. It remains unclear whether lamotrigine use with a background of sickle cell trait in this patient put her at an increased risk of profound anemia. Further studies are required to explore the effects of this commonly used medicine. References:

**No. 54****Telepsychiatry and In-Person Care for Pediatric Patients During COVID-19: Patients' Perspectives**

*Poster Presenter: Sultana Jahan, M.D.*

**SUMMARY:**

**Background:** The COVID-19 pandemic has greatly affected how physicians, including child and adolescent psychiatrists, practice. A major shift came in the form of telehealth, in which patients attend clinic appointments online. Objectives: The objective of this study was to identify advantages & disadvantages of the telepsychiatry care delivery system and to devise future strategies to resolve drawbacks to improve patient and caregiver satisfaction. Methods: A proposal was approved by the University of Missouri-Columbia Internal Review Board to conduct this study. One hundred patients were randomly selected for the study questionnaires. To understand patient satisfaction with telehealth and work towards improvements, this study conducted comparative survey research with 50 patients seen virtually & 50 patients seen in-person. Identical survey questions were filled out by patients and their respective guardians. The survey's first question asked which setting was preferred during the COVID-19 crisis and was followed by free response questions prompting responses about



what they liked and disliked about telehealth and in-person visits. Results: Of the 50 patients seen virtually, 72% indicated a preference for telehealth, 14% preferred in-person, and 14% had no preference. These patients stated they preferred telehealth because it was convenient, required no travel & required fewer absences from school or work. 28% patients, listed safety from exposure to COVID-19 as a reason they liked telehealth. Over half of these patients reported no complaints with telehealth, the most common issue according to patients seen virtually was internet connectivity and technology problems. 64% of in-person patients reported a preference for in-person visits during the COVID-19 crisis. Similar to virtual patients, convenience was the most popular advantage of telehealth & personal connection was the most common disadvantage. The second most common complaint regarding telehealth & the highest reported advantage of in-person visits is the element of personal connection. 16% of patients seen virtually and 24% of patients seen in-person reported more accurate assessment an advantage of in-person care. These patients listed concerns about body language, vital signs, and other physical symptoms. Conclusion: With telehealth as a seemingly permanent aspect of medicine, the field of psychiatry must adapt. Expansion of broadband and increasing affordability of high-speed internet connection are practical solutions to technological issues with telehealth. For patients preferring to be seen virtually, a recommendation can be made to have at least the first visit in-person to establish a personal relationship. Vital signs can be checked at home with proper training. Telepsychiatry is likely to continue to be a part of our care delivery system. To that end we must be vigilant and develop better strategies to improve the quality of patient care and patients' satisfaction.

#### **No. 55**

#### **Telescope: A 2021 Clinician Survey on Telehealth Services to Detect and Treat Tardive Dyskinesia in the Psychiatry and Neurology Outpatient Setting**

*Poster Presenter: Rimal Bera*

*Co-Authors: Ericha Franey, Kendra Martello, Morgan Bron, Chuck Yonan*

#### **SUMMARY:**

**Background:** Tardive dyskinesia and drug-induced movement disorders (DIMDs) negatively impact quality of life and should be monitored regularly in all patients taking antipsychotics or dopamine receptor blocking agents (DRBAs). The COVID-19 pandemic caused a rapid shift from in-person to telehealth visits, which presented several challenges, especially in monitoring and evaluating DIMDs in patients. The observational study, "Real-World Tele-Health Evaluation of Tardive Dyskinesia Symptoms Communication/Observation Procedure Evaluation in Outpatient Clinical Settings" (TeleSCOPE), compared video/telephone calls with in-person visits to determine their impact on assessment and management of DIMDs. **Methods:** Online surveys were conducted (May 14–Jun 21, 2021) with clinicians (psychiatrists, neurologists, NPs/PAs) who met the following criteria: =3 years of practice with =70% of time spent in clinic; prescribed a vesicular monoamine transporter 2 inhibitor or benztrapine for DIMD in the past 6 months; and conducted telehealth visits with =15% of patients from Dec 2020–Jan 2021. **Results:** Respondents included 277 clinicians (psychiatry=168, neurology=109). COVID-19 decreased in-person visits in psychiatry to 13% compared to 38% in neurology. However, phone and video visits increased in psychiatry to 38% and 49%, respectively, during peak COVID-19. In both specialties, tics/movements mentioned by family (86%) and trouble with gait (82%) were the most reported signs/symptoms that drove DIMD evaluations. Remote management presented challenges as 46% of clinicians reported the inability to assess these signs/symptoms during phone visits and 23% for video visits. Most patients medicated with DRBAs were not evaluated for DIMDs during phone visits (psychiatry=76%, neurology=91%) compared to video visits (psychiatry=45%, neurology=70%). However, nearly 40% of patients at community mental health clinics could not complete video visits due to technical difficulties or lack of computer access. Across all practices, presence of caregivers during phone visits reduced difficulty in evaluating DIMDs. Lower functioning patients and those with no caregiver present were at higher risk of missed diagnosis and the most difficult to monitor via telehealth. Limited access to a computer was the top factor limiting ability of clinicians to diagnose

DIMD via telehealth. **Conclusion:** The COVID-19 pandemic significantly reduced clinicians' ability to evaluate, diagnose, monitor, and treat DIMDs. Although in-person assessments have been the gold standard for managing DIMDs, telehealth services in 2022 will remain essential for providing post-pandemic clinical care for certain patients wherever appropriate. Our study highlights specific limitations and challenges and provides considerations to help clinicians better assess and manage DIMDs in the context of telehealth services. This study was funded by Neurocrine Biosciences, Inc.

#### No. 56

##### **Needs and Acceptability of Text Message Group Therapy Among Low Income, Mostly Minority Mothers: A Qualitative Study**

*Poster Presenter: Ilang Guiroy, M.D.*

*Co-Authors: Brianna Caicedo, Randy Semple, Ph.D., Roya Nouri*

#### **SUMMARY:**

**Background:** Despite having efficacious treatments for postpartum depression (PPD), there continues to be a gap in access. Nearly 740,000 mother-infant dyads are annually affected by PPD in the United States. Women of color and low socioeconomic status are particularly impacted. Digital interventions have made psychotherapy more accessible, scalable, and cost-effective. We used Focus Groups to study the needs and acceptability of Text Message Group Therapy (TMGT) for PPD among low-income, mostly minority mothers of infants and young toddlers. A purpose of this study is to ground a TMGT intervention in the community it aims to serve by speaking to these mothers directly and bringing their voices into the scientific literature. **Methods:** We recruited mothers via community flyers (Los Angeles County) and social media (national), then screened via phone. Inclusion criteria included  $\geq 18$  years old, given birth in the last 24 months,  $\geq 5$  on depression DIGS scale, literacy in English, and reliable access to internet. Exclusion criteria include active psychosis, mania, or suicidality. We had three, one-hour, semi-structured focus groups via zoom with a total of 13 participants. Questions included 1) Whom do mothers get emotional support from about motherhood and baby care?; 2) What gaps are there

in this support?; 3) Where do mothers get health information?; 4) What barriers have they faced in getting mental health care?; 5) Would they be willing to participate in text message group therapy and why or why not? Audio was professionally transcribed. Through inductive thematic analysis, two independent coders identified themes which arose from the data through a Grounded Theory approach to build a consensus codebook. Codes were applied to transcripts until intercoder agreement reached Krippendorff's Alpha of  $\geq 0.8$ , with a third independent coder as tie-breaker.

**Results:** Over 30 themes were identified with parent codes of resource, communication method, health care, motherhood, support, and TMGT intervention. Overall, mothers have a self-perceived need, think text message therapy would make therapy more accessible to them, and are willing to participate in TMGT. Notable themes included: mothers provide caregiving in addition to other tasks, mothers can't complain but desire a safe emotional space, using a support network often comes at an interpersonal cost, health care providers often don't understand motherhood, and mothers' desire for treatment besides medication. **Discussion:** TMGT could potentially help low-income, mostly minority mothers gain access to psychotherapy to treat postpartum depression. These women were overwhelmingly positive in their response regarding both the need and expressed willingness to participate. The TMGT format would allow mothers to engage in psychotherapy while avoiding the need to access caregiving for their children, engaging in household tasks, avoiding transportation issues, and not stressing thing childcare support systems.

#### No. 57

##### **Text Message Therapy Is Needed by and Acceptable to Postpartum Mothers**

*Poster Presenter: Ilang Guiroy, M.D.*

*Co-Authors: Jack Rodman, Randy Semple, Ph.D.*

#### **SUMMARY:**

**Background:** There continues to be a gap in access despite efficacious treatments for postpartum depression (PPD). Annually, 10-15% of mothers and infants are affected. Digital interventions have made psychotherapy more accessible, scalable, and cost-

effective. This study is the first to examine the needs and acceptability of text-message therapy among mothers of infants and young toddlers. **Methods:** Mothers were recruited via social media ads to participate in an online survey. Questions included demographic information, whether a mother sought help, barriers to receiving help, ways in which mother communicated about motherhood and infant care and with whom, satisfaction with communication type, willingness to engage in text message therapy, and barriers to engaging in therapy including via text message. Inclusion criteria included > 18 years old, given birth in the last 24 months, and > 1 on the DIGS depression module peri-partum or lifetime. Data was analyzed using both univariate and multivariable Firth's logistic regression. **Results:** A total of 897 participants filled out the survey for a completion rate of 64%. Mothers overwhelmingly stated they are willing to engage in psychotherapy via downloaded phone app (72.8%) or website (72.0%). Willingness to participate was not affected by demographic characteristics (age, income, receiving government aid, ethnic minority status) or general level of satisfaction with text-based communication. Self-reporting feeling irritable during pregnancy was significantly associated with willingness to participate (Pearson's  $\chi^2$   $p=0.001$ ), however no other self-reported symptoms, during either time period, were associated with willingness to participate. Upon multivariable analysis, after adjusting for ethnicity and general satisfaction, not receiving past help (OR=1.55,  $p=0.012$ ; OR=1.73,  $p=0.001$ ) and past use of text therapy any other time outside of pregnancy/2-years post-partum (OR=3.59,  $p=0.042$ ; OR=3.90,  $p=0.031$ ) were significantly associated with willingness to participate in future text therapy in both pregnancy and postpartum model. Having four self-reported symptoms was significantly associated with willingness to participate only during pregnancy (OR=2.43;  $p=0.036$ ). **Discussion/Conclusion:** Participants were overwhelmingly willing to engage in text message therapy, demonstrating both need and acceptability of this mode of intervention.

## No. 58

### A Transdiagnostic, Natural Language Processing Analysis of Mental Disorder Symptom Burden Using Electronic Health Record Data

Poster Presenter: Rashmi Patel, M.D., Ph.D.

Co-Authors: Soon Nan Wee, Jesisca Tandi, Joydeep Sarkar

#### SUMMARY:

**Background:** Criterion-based diagnostic classification does not necessarily capture the breadth of clinical presentation in mental disorders. A transdiagnostic, symptom-based approach may enable a better classification of clinical phenotype at individual patient level. Psychiatrists document clinical information in electronic health records (EHRs). Natural language processing (NLP) tools may be used to extract mental state examination (MSE) data from unstructured free text in EHRs. We applied NLP to a large de-identified EHR dataset to investigate the transdiagnostic distribution of mental disorder symptom data. **Methods:** Data from 543,849 patients were obtained from NeuroBlu, a trusted research environment that enables the analysis of de-identified, HIPAA-compliant data from 25 U.S. healthcare providers that employ the MindLinc EHR system. The dataset includes structured data on sociodemographic characteristics and ICD-9/ICD-10 diagnosis, and unstructured MSE data that have been extracted using NLP software. Data on the following MSE features were extracted: i. Delusions/hallucinations (D/H): delusions of grandeur; persecutory delusions; paranoid delusions; hyperreligiosity; auditory hallucinations; visual hallucinations; tactile hallucinations; olfactory hallucinations ii. Mood: anxious; depressed; irritable; elevated; labile; suicidal iii. Cognition: impaired; poor attention; poor concentration The distribution of NLP-derived MSE data by ICD-9/ICD-10 diagnosis was investigated. **Results:** The prevalence (%) of recorded MSE data across eight ICD-9/ICD-10 diagnoses were as follows: Dementia/Alzheimer's disease (n = 5,029, D/H = 42.7%, mood = 50.1%, cognition = 54.1%); Substance use disorder (n = 152,790, D/H = 24.5%, mood = 58.7%, cognition = 17.3%); Schizophrenia (n = 14,592, D/H = 78.9%, mood = 73.7%, cognition = 44.0%); Schizoaffective disorder (n = 15,044, D/H = 79.0%, mood = 81.6%, cognition = 45.1%); Bipolar disorder (n = 69,607, D/H

= 47.7%, mood = 79.7%, cognition = 33.6%); Major depressive disorder (n = 129,120; D/H = 33.0%, mood = 77.6%, cognition = 22.4%); Anxiety disorder (n = 103,923, D/H = 30.8%, mood = 73.4%, cognition = 24.7%); Attention-deficit hyperactivity disorder (n = 53,744, D/H = 22.2%, mood = 57.9%, cognition = 34.3%). **Conclusion:** Delusions/hallucinations were most prevalent in schizophrenia and schizoaffective disorder. Cognitive problems were most prevalent in dementia/Alzheimer's disease. However, mood problems were prevalent among diagnostic categories not typically considered to be a mood disorder (e.g. schizophrenia). Cognitive problems are also prevalent in psychotic disorders. These findings illustrate the potential for a transdiagnostic approach to better represent clinical phenotype than criterion-based diagnosis alone, and the potential for NLP-derived measures to support clinical decision making using EHR data.

#### No. 59

##### Using Machine Learning for Hypothesis Driven Investigations of Rare Disorders

Poster Presenter: Frederick Alton Burton III

Lead Author: Seo Ho Song, D.Phil.

Co-Authors: Soo Hwan Park, Cybele Arsan, M.D.

#### SUMMARY:

**Introduction** Stiff person syndrome (SPS) is a rare neurologic disorder characterized by muscle spasms and painful rigidity. While the chronicity of pain invites consideration of psychiatric comorbidities, a decisive link has yet to be established<w:sdt docpart="922619A53481A34AA98885242522E9AE" id="1004247803" sdttag="11e76013-43aa-4d9e-821e-327593c4b586:7a72f050-b887-4e5a-b235-c0ce79afa41a+" title="SmartCite Citation">(1)</w:sdt>. Associations have been challenging due to the low prevalence of SPS (1-2 cases per million)<w:sdt docpart="922619A53481A34AA98885242522E9AE" id="786163406" sdttag="41c3a044-64bf-4b93-8abb-6948234aca59:862f1bac-c376-4c05-b1ff-36a27e39c8a7+" title="SmartCite Citation">(2)</w:sdt>. Such uncertainties likely translate to delays in diagnosis and timely treatment. Artificial intelligence and machine learning introduce novel modalities to support

diagnostic and prognostic pipelines by considering data that lie outside traditional diagnostic algorithms<w:sdt docpart="922619A53481A34AA98885242522E9AE" id="752629926" sdttag="11e76013-43aa-4d9e-821e-327593c4b586:ee9f1754-9730-4fa4-a3e7-741724787b26+" title="SmartCite Citation">(3)</w:sdt>. We aim to use machine learning to evaluate associations between patients' clinical profile and their SPS diagnosis to identify psychiatric comorbidities of this rare disorder. **Methods** We selected 48 patients with high titers of anti-GAD including 23 patients carrying SPS diagnoses and 25 controls and binarized 320 past medical history items. To determine the features that best predict SPS, we first collected features that were present in 4 or more patients (26 features). We built and optimized Support Vector Machine (SVM) models using the features' Permutation Importance scores or Shapley values via repeated-stratified k-fold validation scheme with 200 training iterations for each model. **Results** SVM models with the best predictive performance converged on depression, hypothyroidism, and GERD as the top 3 predictors of SPS. Joint pain and dyslipidemia were also represented in said models. The Permutation Importance-based model robustly predicted SPS based on the following performance indices: accuracy of 0.77 [0.60-0.94], area under a receiver operating characteristic curve of 0.79 [0.63-0.95]. Directionality analysis showed appropriate shifting of the prediction value with each added feature. **Discussion** Our model's architecture revealed that depression is a strong predictor of SPS, elevating our index of suspicion for psychiatric comorbidities in this condition. Our stratagem partly circumvents the limitations of statistical underpowering and focuses on identifying associations through induction. Machine learning can be a powerful tool for generating new hypotheses for rare disorders, allowing us to allocate limited resources and evidence for subsequent targeted investigations. We demonstrate a proof of principle that data mining can extract value from passively collected and underutilized data in electronic health records. Machine learning can complement hypothesis-driven investigations, together forming a closed-loop approach to aid diagnostic challenges in neuropsychiatry and beyond.

**No. 60****Predicting Potential Drug-Drug-Gene Interactions in a Population of Individuals Utilizing a Community-Based Pharmacy**

*Poster Presenter: Daniel Dowd*

*Co-Author: David Krause*

**SUMMARY:**

**Introduction:** Drug-drug interactions (DDIs) are among the most common causes of adverse drug reactions (ADRs), and DDIs are further complicated by genetic variants in enzymes responsible for drug metabolism. The aim of this study is to quantify and describe potential drug-drug, drug-gene, and drug-drug-gene interactions in a community-based patient population. **Methods:** A regional pharmacy provided de-identified prescription data from March 2020 for 4,761 individuals. The data were assessed for drug-drug interaction risk, and individuals were stratified to a risk category using the logic incorporated in GenMedPro, a commercially available digital gene-drug interaction software program. To calculate the frequency of potential drug-gene interactions, genotypes were imputed and randomly allocated to the cohort according to each gene's frequency in the general population. **Results:** The probability of a DDI of any impact was 26.0% [95% CI: 0.248-0.272] and increased to 49.6% [95% CI: 0.484-0.507] when simulated genetic polymorphisms were assessed. There was a 7.8% [95% CI: 0.070-0.085] probability of major drug-drug interactions and 10.1% [95% CI: 0.095-0.108] probability with the addition of genetic contributions. The probability of drug-drug-gene interactions of any impact was correlated with the number of prescribed medications, with a probability of 77%, 85%, and 94% in patients prescribed 5, 6, or 7+ medications, respectively. Antidepressants (19.5%), antiemetics (21.4%), analgesics (16%), antipsychotics (15.6%), and antiparasitics (49.7%) had the highest probability of major drug-drug-gene interaction. **Conclusions:** These data suggest that pharmacogenetic testing may be useful in predicting drug interactions, drug-gene interactions and severity of interactions when proactively evaluating patient medication profiles.

**No. 61****Evaluation of Aggregated Safety Data Across Clinical Trials of Iteratively Developed Wearable Sensor Patches for Digital Medicine**

*Poster Presenter: Robin West*

*Co-Authors: Antonia Coppin-Renz, Michael Jan, Christophe LeGallo, Justin Corey Reuteman-Fowler*

**SUMMARY:**

**Introduction:** Digital tools have the potential to transform the psychiatric care of patients with serious mental illnesses. Wearable sensors can provide objective, standardized patient information that enable providers to make informed care decisions.<sup>1</sup> However, prolonged use of sensors with adhesive patches raises concerns for skin irritation. Currently, there are gaps in our understanding of how patient-related factors (eg, demographics, medical history) and sensor patch-related factors (eg, composition of adhesive/patch material, dimensions, duration of use, frequency of sensor patch changes) impact the risk of skin irritation. In this study, we investigated aggregate safety data for the sensor patch component of aripiprazole tablets with sensor (AS [Abilify MyCite<sup>®</sup>]; includes aripiprazole tablets with an embedded ingestible event-marker sensor, wearable sensor patches, and a smartphone application).<sup>2</sup> Successive iterations of sensor patches were developed chronologically: RP4 was the first FDA-cleared version, replaced with DW5, then RW2. Leveraging patient experiences from a large pool of clinical trial data, we evaluated safety data across 12 company-sponsored studies to better characterize factors associated with risk of skin irritation from use of these 3 patch versions. **Methods:** Participant-level data were pooled from 12 studies conducted in adults using AS from August of 2013 to April of 2021. Adverse events related to patch wear were analyzed, with abrasions, blisters, dermatitis, discoloration, erythema, irritation, pain, pruritus, rash, and skin reactions grouped as skin-irritation events (SIE). As some study participants used >1 patch type, SIE were counted separately for each participant by patch combination. SIE incidence was examined by unique study participants and by duration of patch use. Treatment discontinuation due to SIE was tabulated by patch type. **Results:** A total of 763 participants were included in this analysis, 104 of whom (13.6%) experienced =1 SIE.

Stratified by patch type, =1 SIE were experienced by 28/155 participants who used RP4 patches (18.1%), 55/387 participants who used DW5 (14.2%), and 28/306 participants who used RW2 (9.2%). The aggregate incidence by duration of patch use was 6.84 SIE per person-year (PY) for RP4, 1.97 SIE per PY for DW5, and 1.32 SIE per PY for RW2. Treatment discontinuation due to SIE occurred among 3/155 participants with RP4 patches (1.9%), 12/387 participants with DW5 (3.1%), and 4/306 participants with RW2 (1.3%). *Conclusion:* In the development of wearable sensors, biocompatibility considerations are a priority.<sup>3</sup> Our iteratively developed sensor patch component of the AS highlights how feedback from clinical trial participants regarding comfort, ease of wear, and reported adverse events can be incorporated into product design to develop safer, more wearable successive products.

#### **No. 62**

##### **Telepsychiatry During the COVID-19 Pandemic: Clinical Management of Patients With Schizophrenia and the Use of Long-Acting Injectable Antipsychotics**

*Poster Presenter: Dawn Velligan*

*Lead Author: Amy O'Sullivan*

*Co-Authors: Eric D. Achtyes, M.D., Philip Harvey, Stephen Saklad*

#### **SUMMARY:**

**Background:** The COVID-19 pandemic markedly altered delivery of care for outpatients with mental health conditions. We examined how changes to clinic operations after the onset of the pandemic helped to maintain standard of care for patients with schizophrenia treated with long-acting injectable antipsychotics (LAIs). **Methods:** In this OASIS (NCT03919994) substudy, 1 principal investigator (or designee) at 35 participating clinics completed an online, cross-sectional survey between 10/2020 and 11/2020. Survey topics included impacts of COVID-19 on clinic operations, telepsychiatry services, and care of patients with schizophrenia treated with LAIs. **Results:** Telepsychiatry was utilized by all 35 clinics and newly implemented in 20 (57%) after COVID-19 onset. Across outpatient visit types, telepsychiatry utilization for non-injection visits

increased from 12% to 15% before the pandemic to 45% to 69% after the pandemic onset. In addition, respondents reported that telepsychiatry appointment “no shows” and/or cancellations were reduced by approximately one-third after the pandemic versus before the pandemic. For patients with schizophrenia treated with LAIs, the frequency of telepsychiatry visits increased in 46% of clinics during the pandemic; management options used for those patients included switching patients from LAIs to oral antipsychotics in 34% of clinics surveyed and switching patients to LAIs with longer injection intervals in 31% of clinics surveyed. Top barriers to telepsychiatry visits were low reimbursement rate (system/clinic-related) and lack of access to technology/reliable Internet (patient-related). In all, 94% of respondents reported satisfaction with telepsychiatry for maintaining the standard of care for patients with schizophrenia treated with LAIs. Participants expected to use both telepsychiatry and office visits post-pandemic. **Conclusions:** Almost all respondents viewed changes to clinic operations after pandemic onset as satisfactory to support care for patients with schizophrenia treated with LAIs. Most principal investigators anticipated continuing telepsychiatry for patient care after the pandemic; therefore, ensuring equitable patient access to telepsychiatry services is recommended to maintain standard of care in the management of mental health conditions.

#### **No. 63**

##### **EMDR in a Primary Care Setting: Assessing Utility and Comparing Efficacy of Virtual to In-Person Methods**

*Poster Presenter: Harris Liou*

*Co-Authors: Jennifer Hecker Duval, Crystal Huang, Colton Lane*

#### **SUMMARY:**

**Background:** Eye Movement Desensitization and Reprocessing (EMDR) is an evidence-based psychotherapy designed to treat distress associated with traumatic memories<sup>1</sup>. Although the COVID-19 pandemic has challenged providers to shift EMDR to telehealth platforms, there is a dearth of evidence for the efficacy of EMDR administered in this manner<sup>2,3</sup>. **Aim:** 1. To compare EMDR in conjunction

with CBT (cognitive behavioral therapy) to CBT alone for treatment of a patient population with prevalent anxiety. 2. To compare the efficacy of virtual EMDR to that of in-person EMDR in the primary care setting. **Methods:** Retrospective chart review of all adult patients seen by a single therapist at a primary care center from January 2018 to December 2020. Charts were reviewed for demographics, psychiatric diagnoses, number of visits, number and type of EMDR treatments, and PHQ-9 and GAD-7 scores pre- and post-treatment. **Results:** Patients who underwent EMDR with CBT demonstrated greater decreases in PHQ-9 and GAD-7 scores than patients who only had CBT (2.4, 2.5 vs. 0.9, 1.1). However, after adjusting for total number of sessions, PTSD, grief, and pain, the adjusted mean differences of change in PHQ-9 and GAD-7 scores between those who underwent EMDR with CBT and CBT-exclusive patients were not statistically significant. Similarly, the adjusted mean differences of change in PHQ-9 and GAD-7 scores between those who underwent virtual EMDR and those who had in-person EMDR were not statistically significant. **Conclusion:** To our knowledge, this is the first study describing the use of virtual EMDR in a primary care setting<sup>4</sup>. Although our data did not provide evidence for the superiority of EMDR with CBT over CBT alone, we demonstrate that both in-person and virtual EMDR led to significantly improved GAD-7 scores.

#### **No. 64**

##### **Assessing the Efficacy and Experience of In-Person Versus Telephonic Psychiatric Evaluations for Asylum Seekers in the U.S.**

*Poster Presenter: Mitchell Bayne, M.P.H.*

##### **SUMMARY:**

Psychiatric evaluations of asylum seekers in the U.S. play an important role in asylum cases; however, there are significant barriers to assessing asylum seekers' psychological trauma. Telephonic psychiatric evaluations provide an opportunity to access important resources to bolster their case. In this retrospective study, we considered the efficacy of telephonic psychiatric evaluations and assessed their potential as a solution to meet the needs of asylum seekers. Ten affidavits produced from telephonic evaluations were compared to twenty

produced from in-person evaluations using a standardized scoring rubric. Providers who conducted telephonic evaluations also completed a structured interview and a qualitative assessment of themes was conducted. Overall, there was a small, but non-significant difference in overall score. The presence of descriptions of cognitive complaints, appearance, motor activity and use of checklists were, however, all significantly lower in telephonic compared to in-person affidavits. Providers agreed that despite limitations, the ability to diagnose and advocate for asylum seekers is equivalent regardless of format. This study identifies that telephonic psychiatric evaluations produce comparable results to in-person evaluations with the benefit of reaching a hard to reach population. Evaluators, lawyers, and judges should consider these results in weighing the risk-benefits of a telephonic evaluation of an asylum seeker.

#### **No. 65**

##### **WITHDRAWN**

#### **No. 66**

##### **The Use and Safety of Leave From an Acute Inpatient Psychiatric Unit: A Retrospective Review of Pass Outcomes Over Four Years Abstract**

*Poster Presenter: Emily Hill, M.D.*

*Co-Authors: Vasilis Hristidis, Ricardo Caceda, M.D., Ph.D.*

##### **SUMMARY:**

**Objective:** Leave passes provide authorized leave for hospitalized patients from a psychiatric inpatient unit. Though providing day passes was once a relatively common practice, there is relatively little data describing their safety and efficacy. **Methods:** This descriptive study examines the use of leave passes in an adult inpatient unit at a university hospital between 2017 and 2021, with attention to reasons for granting the day pass, duration, and outcome of the pass. **Results:** During the study period, ten patients with primary psychotic or mood disorders received 12 passes for either housing coordination, COVID-19 vaccination or major family events. There were no fatalities or elopements. One patient experienced severe agitation and engaged in non-suicidal self-injurious behavior. A second patient

showed mild, redirectable psychomotor agitation upon return to the unit. The remainder 10 passes were uneventful. **Conclusions:** Our findings support the view that patients with diverse diagnoses can safely be provided leave from an inpatient setting with adequate planning and support, yielding a low incidence of adverse events.

#### No. 67

##### **Could We Prevent a Near-Miss Event? A Study on the Effects of Instituting a Standardized Handoff**

*Poster Presenter: Rachel Natasha Varadarajulu, M.B.B.S.*

*Co-Authors: Maria Mirabela Bodic, M.D., Anetta Raysin*

#### **SUMMARY:**

**Introduction:** Communication between providers with regards to patient handoff has been an area that physicians have been trying to improve for decades. According to estimates from the Institute of Medicine, 44,000 to 98,000 patients die in U.S. hospitals annually because of injuries in their care due to errors.<sup>1</sup> Patient handoff in psychiatry is particularly challenging because of the subjectivity of the field. Two known psychiatry-specific handoffs include PSYCH, which was adapted from the handoff SBAR (Situation, Background, Assessment, and Recommendation) and PSYCH-PASS, which was a handoff system based on I-PASS (Illness severity, Patient summary, Action list, Situation awareness and contingency planning and Synthesis by receiver).<sup>2,3</sup> Both studies were significant for improved efficiency of communication and decrease in the number of errors. **Objective:** The goal of this study is to assess for satisfaction among psychiatry residents, efficacy of communication, and ability to avoid errors with having a streamlined sign-out process. **Methods:** This is a cross-sectional 14 question survey, across all four PGY levels, at Maimonides Medical center (MMC). Pre-surveys were administered prior to training in the proper use of IPASS. Psychiatry specific handoff was instituted, and post-surveys were administered after 5 months. Results were analyzed using non-parametric tests. **Results:** A total of 17 responses were collected for the pre and post survey, coded as 1 for "Agree", 2 for "Neutral" and 3 for "Disagree. Pre-surveys were

significant for: majority (mean score 2.47) reported that sign-out was inaccessible throughout the shift, often uncover errors from sign-out later in the shift (1.88), that providers are prone to make mistakes due to errors in sign-out (1.88) and belief that the current structure of sign-out leaves room for confusion/errors (2.24). After implementation of IPASS, the results for all these questions improved: 1.41, 1.94, 1.71 and 1.76 respectively. (P =0.03).

**Conclusion:** There is a paucity of data in medical literature, on information sharing behavior between physicians to ensure continuity of care.<sup>4</sup> Giving and receiving information are a large part of the physician's daily routine. The impact after implementation of a formal sign-out process includes better communication, smoother continuity of care and a more thorough understanding of the thought process behind the current treatment plan and disposition resulting in physicians taking over the patient's care in the next shift feeling more comfortable and equipped with adequate knowledge in case of future or anticipated concerns.

#### No. 68

##### **Comparing Empathy Trends in Psychiatry Residents After a Mindfulness-Based Intervention**

*Poster Presenter: Rachel Natasha Varadarajulu, M.B.B.S.*

*Co-Author: Maria Mirabela Bodic, M.D.*

#### **SUMMARY:**

**Introduction:** Empathy has been described in literature as the most frequently mentioned attribute of the humanistic physician<sup>1</sup>. As psychiatry residents in training, it is imperative to try and understand our patients' world view in order to provide them with better care. Enhancing focus on developing self-compassion using mindfulness interventions for health care workers holds promise for reducing perceived stress and increasing effectiveness of clinical care, which could potentially be reflected in empathy scales.<sup>2</sup> Studies have shown that Mindfulness-based interventions decrease stress, anxiety, and depression and improve mood, self-efficacy, and empathy in health profession students.<sup>3</sup> **Objective of the study:** 1. To assess the impact of a mindfulness based intervention and curriculum on the empathy 2. To decrease burnout



levels through improved empathy, which can in turn improve patient care. Methods: This is a 2 phase quality improvement project. In Phase 1 we are focusing on assessing empathy levels, using the basic empathy scale before and after a mindfulness based intervention. The intervention was for residents to engage in a savoring-oriented positive psychology exercise where they would go on a 10 minute walk daily, and engage all 5 senses during the walk. In phase 2, selected residents and faculty will be trained in a specific validated mindfulness approach based on which they will re-design our mindfulness based curriculum. Results: We currently only have baseline empathy data which show that there are some questions where residents feel like they are not in tune with their friend's emotions. (Average 1.37 out of 29 residents on a Likert scale 1 to 5, where 5 is strongly disagree). There were also differences between PGY levels, where first year residents denoted that after spending time with a friend who is sad, they usually feel sad (average 2.06), compared to second year residents. (average 3.8) The analysis of change in trends will be conducted after the completion of 6 weeks of the intervention. Conclusion: Studies have shown that empathy towards patients' decreases significantly with each year of training. As physicians, this can be detrimental to patient care. We expect our intervention will show improvement in empathy levels after completion of the mindfulness exercise. Given that mindfulness based interventions can help combat burn out and decline in physician empathy, instituting a mindfulness-based curriculum for psychiatry residents could be a way to combat this alarming trend.

#### **No. 69**

##### **Suicidality in a Person With Mild to Moderate Intellectual Disability: Differences in Presentation and Deficits in Research**

*Poster Presenter: Victoria Jean Moors, B.A.*

*Co-Author: Justin Faden, D.O.*

#### **SUMMARY:**

A 45-year-old female with a past psychiatric history of depression and schizophrenia presents to the psychiatric emergency department (ED) for suicidal ideation with a plan. For the past two days, the

patient has been feeling "down" and hearing auditory hallucinations commanding her to take her own life. She's been drinking "poisons," including adding baking soda and other toxic "liquids" to her coffee. As she begins to describe possibly being abused, she yells and throws herself to the floor wailing, resulting in a security alert, subsequent chemical restraints, and an end to the interview. The patient's adamant belief that consuming baking soda would result in suicide leads us to investigate if there is a history of intellectual disability (ID); further chart review reveals "concrete thinking," "poor coping skills explained by possible presence of ID," and six psychiatric inpatient admissions along with multiple psychiatric ED visits over the past 15 months. This frequency reflects the observation of a 2011 study: ED use occurred almost three times as frequently in persons with a psychiatric disorder and ID as compared to persons with a psychiatric disorder but no ID (Lunksy et al., 2011). Viewing her suicidality in the context of ID allows the physician to better understand the severity of her presentation and therefore provide better treatment. However, the paucity of applicable data on this topic impedes the most well-intentioned psychiatrist from providing tailored care to this diverse patient population. **While some research outlines tangible differences in suicidal presentation among persons with and without ID (Bardon, 2020), a 2016 systematic review shows how the limited research on this topic may hold on to antiquated beliefs that persons with ID lack the capacity for suicidality (Dodd et al., 2016).** This poster discusses challenges with applying current research to clinical practice, strategies for understanding suicidality in the context of ID, and proposes ways in which patient-centered research can be implemented ethically.

#### **No. 70**

##### **Cigarette Smoking Behavior and Its Relation to the Well-Being of Students During COVID-19 Pandemic: Results of the International Online Survey**

*Poster Presenter: Kaja H. Karakula*

#### **SUMMARY:**

**Background:** The COVID-19 pandemic resulted in a change of cigarette smoking habits of many students, but little is known about its relationship

with their well-being. **Purpose:** This study aimed to assess: 1) smoking behavior during the COVID-19 pandemic, 2) the relationship between cigarette smoking and the intensity of the emotional distress among students. **Methods:** We conducted an online cross-sectional survey that was distributed amongst Polish, Chinese, Egyptian, Pakistani, and Mexican students (N = 3012) from 12<sup>th</sup> April to 1<sup>st</sup> June 2021. The respondents were asked several questions regarding their smoking habits. Depression, Anxiety, and Stress Scale-21 (DASS-21) was used to assess the intensity of emotional distress. **Results:** 10.7% of students of the whole group before the COVID-19 outbreak and 9.1% during the pandemic smoked cigarettes. Of those who used cigarettes before, 26.3% increased smoking, while 36.2% decreased or quit smoking completely. The highest number of smoking students was found in Pakistan (14.8%) and Poland (12.2%) and the lowest in Egypt (3.9%) and China (3.0%) ( $p < 0.04$ ). The most substantial changes regarding the number of smoked cigarettes were observed in Poland (6.7% increase) and Mexico (12.0% decrease). A positive relationship between the number of smoked cigarettes (both during and before the pandemic) and all DASS-21 components was observed. The severity of emotional distress in the students who changed their behavior was significantly higher than in the non-smokers and regulars in the number of smoked cigarettes ( $p < 0.0001$ ). **Conclusions:** 1. During the pandemic the number of smokers decreased and the highest number of smoking students was found in Pakistan (14.8%) and the lowest in China (3.0%). 2. Changing smoking habits and number of smoked cigarettes were correlated with the intensity of emotional distress. **Key words:** mental health; COVID-19 pandemic; depression; anxiety; stress; cigarettes, nicotine

#### No. 71

##### **Use of Psychedelics in Medicine: Are Future Providers, Allied Professionals, and Researchers Being Educated?**

*Poster Presenter: Jamarie Ann Geller, M.D., M.A.*

*Co-Authors: Avinash Hosanagar, M.D., Nicolas Glynos, Ralph Bogan, Adriana Koek*

#### **SUMMARY:**

Novel therapeutics can take decades to find their way into higher education. The field of psychedelic medicine and the utility of psychedelics in psychiatry is reemerging, with some of the most promising pharmacotherapies in several decades. However, its discourse is still relatively siloed despite growing acceptance among scholars and practitioners. Likely owing to a number of recent positive trials, publicized decriminalization, and notable presence in popular media, more individuals in the community, including patients, are using classical and novel psychedelics for therapeutic or recreational purposes<sup>1,2,3</sup>. Thus, it is important to know how and to what extent medical and allied professional trainees are receiving information they will be sharing with patients. A survey was conducted to this end, targeting medical trainees, allied professional trainees including pharmacy students, PhD candidates, post-doctoral researchers, and master's level students to elicit attitudes, knowledge, and amount and type of education available about psychedelic substances in training programs. We found that most trainees know or have heard about psychedelics and related therapies. A significant number think that psychedelics have greater than a moderate amount of potential as effective treatments, and believe that psychedelics should be allowed to be used by qualified professionals given that their safety and efficacy are demonstrated. A large number of respondents reported receiving training in psychedelic science or medicine, and many think that therapy is an important part of psychedelic medicine. However, knowledge about psychedelics and related therapies remains relatively modest, and there are limited opportunities for education at participants' home institutions. Indeed, about half report less than moderate amounts of available education/instruction. These results suggest that while trainees are aware of and interested in psychedelic medicine/research, they receive inadequate training about psychedelic compounds and their institutions do not currently have the resources to meet their training needs. This poses a problem since psychedelics are becoming increasingly available to the public through decriminalization efforts and underground therapy. Adequate training of healthcare professionals will be

essential to ensure safety and efficacy of naturalistic psychedelic use and to prepare future trainees to be able to effectively integrate psychedelic therapies into their practice and to counsel patients appropriately.

**No. 72**

**WITHDRAWN**

**No. 73**

**Childhood Factors in DSM-5 Intermittent Explosive Disorder**

*Poster Presenter: Saba Shevidi*

*Co-Author: Emil Cocco*

**SUMMARY:**

**Abstract** DSM-5 Intermittent Explosive Disorder (IED) is a disorder of impulsive aggression. It is defined by recurrent angry/aggressive outbursts out of proportion to provocations or stressors, is impulsive in nature, and is associated with distress and impairment. Specifically, the DSM-5 diagnostic criteria for IED include: 1) frequent minor outbursts such as verbal tirades or minor physical aggression (at least twice a week on average, over three or more months) and/or 2) infrequent major outbursts that result in physical harm to other or property (minimum of three major outbursts in a single year), all of which are not better explained by a different medical or mental disorder. This study examines the childhood environment of adults with DSM-5 IED (n = 558) compared with non-aggressive psychiatric control adults (n = 451; to control for general psychopathology) and with healthy control adults (n = 451) without history of psychiatric illness. The factors examined include parent marital status, parental education level, subject adoption status, primary caregiver relation to subject, physical aggression witnessed among parents, physical aggression to subject and siblings, subject degree of fighting with peers before the age of ten, history of peer rejection, and history of juvenile arrests. Significant differences were noted between those with IED, compared with psychiatric and healthy controls in terms of parent marital status (more likely to be divorced or separated), parental education level (more likely to have limited high school education), primary caregiver relation to

subject, physical aggression witnessed among parents (more likely to be frequent), physical aggression to subject and siblings (more likely to be frequent), subject degree of fighting with peers by age ten, history of peer rejection by age ten, and history of juvenile arrests. These results suggest the prevalence childhood adversities may be linked with IED, suggesting that the childhood environment of those with IED is substantially more tumultuous than both those of individuals with other psychiatric disease and healthy individuals.

**No. 74**

**Impact of the Beirut Explosion on the Mental Health of Lebanese Expatriates**

*Poster Presenter: Gaelle Rached*

*Co-Authors: Dimitri Fiani, Muriel Slim, Margarita Abi Zeid Daou, Souraya Torbey*

**SUMMARY:**

On August 4th 2020, Beirut, Lebanon witnessed a devastating explosion due to a large amount of ammonium nitrate stored at the Port. This explosion was the most powerful non-nuclear explosion of the 21st century. Thousands of Lebanese were left homeless, or jobless, and hundreds were killed or injured. Studies show that many Lebanese residents started experiencing trauma symptoms; however, little is known about the mental health effects on Lebanese citizens living abroad. The Lebanese diaspora is estimated to be formed by as much as 14 million citizens worldwide, more than double the population in Lebanon. Moreover, expatriates in general are under significant stress, making them more prone to mental health and substance use disorders. This study investigates the mental health repercussions of the explosion on Lebanese expatriates by means of a survey shared on social media. The study has IRB approval from Kennedy Krieger Institute and Johns Hopkins University Medicine. It was launched on March 6th, 2021 for a duration of six months. Participants have the option to fill the survey in English or in Arabic. The target population is Lebanese citizens or first generation from Lebanese descent currently residing outside of Lebanon, aged 18 years and above. Non-Lebanese citizens or descendants, individuals who are still living in Lebanon, and people aged less than 18

years-old are excluded from the study. The survey is designed on Qualtrics and is shared via email and on social media platforms including: WhatsApp, Facebook, Instagram, Twitter and LinkedIn. The questionnaire consists of demographic data questions followed by the Hopkins Symptom Checklist 25. In addition to that, individuals who meet criteria A for PTSD (had first-hand witnessed the blast, were physically affected or had close family or loved ones who suffered physical damage from the blast) are then directed to fill out the PTSD Checklist PCL-5. To date, a total of 1093 individuals participated in the study, with a mean age of 31 and with more females than males. Most participants were born in Lebanon, and the highest number of participants reside in France, USA, Canada and UAE. The majority reports major physical impact and losses due to the explosion to close family and friends. The majority of participants reported feelings of helplessness and anxiety. Many participants are selected to fill out the PCL-5 but most do not have PTSD symptoms. In conclusion, this study reveals that the Beirut Blast significantly affected the lives and mental health of Lebanese expatriates, leading in particular to feelings of anxiety and helplessness. It also brings to light the importance of taking in consideration the mental health of expatriates when adverse events occur in their home countries.

#### **No. 75**

##### **Catatonia and Severe Schizophrenia in a 12-Year-Old With a Rare Genetic Mutation**

*Poster Presenter: Gaele Rached*

*Co-Authors: Dimitri Fiani, Michael Chojnacki, Souraya Torbey*

#### **SUMMARY:**

Catatonia is a condition characterized by immobility, posturing, and withdrawal. It has a prevalence of 0.6% to 17% in inpatient youth. Schizophrenia is a psychotic disorder associated with delusions, hallucinations and disorganized speech, and it has a low incidence rate of 0.04% in children. Here, we present an interesting case of a child diagnosed with both of these rare conditions in the presence of a rare genetic mutation. A 12-year-old boy with previously normal social and neurotypical

development presented with progressive cognitive decline, social withdrawal, bizarre behavior and personality changes over two years. His stressors included parental separation, healthcare inaccessibility, and virtual schooling due to the COVID-19 pandemic. He was assessed in an outpatient neurology clinic, and genetic testing revealed mutations on chromosomes 2 and 3, the latter of which disrupts a single copy of the CNTN4 gene and is of uncertain clinical significance. Due to the exacerbation of his cognitive symptoms, he was diagnosed with catatonia and PO Lorazepam was initiated. After no improvement, he was admitted to a specialized hospital for neurological workup of his cognitive decline and catatonia, and was started on IV Lorazepam for treatment of catatonia. Given the escalating doses, he was transferred to Johns Hopkins Hospital pediatric intensive care unit for close monitoring where spent 3 days, and was then moved to the medical floor. Workup was overall unremarkable, ruling-out autoimmune encephalitis, metabolic disorders, fragile X, and other diagnoses. Consequently, he was diagnosed with catatonia from a psychiatric cause. He was later transferred to the psychiatric unit where catatonia symptoms improved under increasing doses of Lorazepam IV. After Lorazepam was changed to PO, he developed a diffuse rash with pruritus and was thus switched back to IV Lorazepam. Benzodiazepine dose reduction attempts led to worsening catatonia. Therefore, ECT was initiated, with concomitant Flumazenil to block benzodiazepine effect. After starting ECT sessions, catatonia symptoms improved and benzodiazepines were weaned, but psychotic symptoms such as paranoia and anxiety manifested. He was diagnosed with early-onset schizophrenia that was treated with atypical antipsychotics with concomitant Escitalopram for his anxiety symptoms. This case illustrates the detailed management of rare early-onset catatonia and schizophrenia in a 12-year-old boy. Interestingly, it is the first case description of these psychiatric disorders in a pediatric patient with progressive cognitive decline associated with a genetic mutation of unknown clinical significance.

#### **No. 76**

##### **The Relationship of Gut Microbiome Dysbiosis With Clinical Features of Schizophrenia**

*Poster Presenter: Annamarie Michele Nocera, B.A.*

**SUMMARY:**

Background: The connection between the gut microbiota and schizophrenia has become a fertile area of research. The relationship is bidirectional and quite complex, but is likely to lead to practical clinical applications. For example, the commensal microbiota can produce metabolites that cross the blood-brain barrier and trigger neuroinflammation-, which is believed to be a neurobiological precursor of psychosis.<sup>1</sup> On the other hand, life-style in schizophrenia, such as high-calorie/high-fat food, smoking and sedentary living can be disruptive to the normal microbiome diversity.<sup>2,3</sup> In addition, the antimicrobial properties of antipsychotic drugs can lead to microbiota dysbiosis.<sup>4,5</sup> Methods: We conducted a literature review using specific key words including schizophrenia, psychosis, microbiome, dysbiosis and antipsychotic drugs, to identify controlled studies published on PubMed. We specifically focused on the relationship of the gut microbiota with clinical subgroups of schizophrenia, which to our knowledge, has not yet been reviewed. Results: Multiple clinical differences emerged in this search including 1) differences in microbiota diversity in drug-naïve first-episode psychosis vs healthy controls, 2) the positive effect of antipsychotic therapy on the gut microbiota diversity, 3) differences in the microbiome between schizophrenia patients with and without violent behavior, 4) differences in the microbiome profile in treatment-resistant vs treatment-responsive schizophrenia subgroups and 5) microbiome differences between patients with high vs low symptom severity. Findings: The current literature shows promising correlations between gut microbiome profiles and many clinical features of schizophrenia. There is, however, a paucity of evidence for other clinical features, such as violent v. non-violent behavior, and initial studies require replication. Conclusion: The evolving literature on schizophrenia and the microbiome reveal several promising areas of investigation that may have important clinical implications. Further studies are warranted to explore the possible association of microbiota dysbiosis with other clinical features of schizophrenia such as the severity of negative and cognitive symptoms, comorbid depression or anxiety, functional outcomes and early mortality.

The microbiome may generate useful biomarkers, before and after the onset of psychosis.

**No. 77****Antipsychotic Categorical Response Results From the EMERGENT-1 Trial of Karxt****(Xanomeline+Trospium) in Schizophrenia**

Poster Presenter: Christoph U. Correll, M.D.

Co-Authors: Peter Weiden, Angel Angelov, Stephen Brannan

**SUMMARY:**

**Background:** Multiple lines of evidence point to the therapeutic potential of muscarinic receptors agonists in psychotic disorders. KarXT (xanomeline+trospium) is an investigational medication currently in Phase 3 development for schizophrenia. Xanomeline is a centrally active M<sub>1</sub> and M<sub>4</sub> preferring receptor agonist devoid of any direct dopamine receptor affinity. Trospium is a peripheral antimuscarinic that mitigates peripheral cholinergic adverse events of xanomeline. The effects of KarXT on positive and negative symptoms and safety in patients with acutely symptomatic schizophrenia was demonstrated in a 5-week, phase 2 randomized, placebo-controlled trial (EMERGENT-1; NCT03697252) (Brannan 2021), which reported positive results on the primary endpoint (total PANSS,  $p < 0.0001$ , effect size=0.75) as well as multiple secondary endpoints. The current analyses build on the primary outcomes by reporting: 1) categorical response rates associated with KarXT, 2) clinical magnitude of the response, 3) time course of meeting response criteria, and 4) broader symptom response shown with a 5-factor PANSS analysis.

**Methods:** In these *post hoc* analyses, we assessed clinical response using four categorical cutoffs of percent change PANSS total score from baseline to week 5: =20%, =30%, =40%, and =50%. The KarXT-placebo differences were converted to number needed to treat (NNT). Time course of response was assessed by evaluating the proportion of KarXT and placebo groups achieving the above response criteria at the week 2, 4 and 5 PANSS assessments. Broader treatment domains were evaluated with the "Marder" 5-factor PANSS analysis, consisting of Positive, Negative, Disorganized Thought,

Uncontrolled Hostility, and Anxiety/Depression factors, with the last three representing domains not previously reported. The clinical magnitude was estimated by Cohen's *d* using KarXT-placebo differences for each factor at week 5. **Results:** PANSS response rates at week 5 for the KarXT group ranged from 59.0% for =20% improvement to 15.7% for =50% improvement. The week 5 KarXT response rates were significantly different from placebo across all four cutoffs, with NNTs ranging from 3 for =20% improvement in PANSS total from baseline to week 5 to 11 for =50% improvement. Differences between KarXT and placebo in PANSS responses started at 2 weeks for the =20%, =30%, and =40% improvements, and at 4 weeks for =50% improvement. For the 5-factor PANSS analysis, each factor showed significant differences favoring KarXT over placebo within 2 weeks and continuing to 5 weeks, with week 5 effect sizes ranging from 0.48 to 0.63. **Conclusion:** KarXT treatment was associated with clinically meaningful PANSS responder rates for both absolute proportion and compared to placebo response rates at each cutoff. KarXT showed significant treatment effects on previously unreported PANSS symptom domains (e.g., uncontrolled hostility, anxiety/depression). KarXT may be a clinically useful treatment for schizophrenia.

#### No. 78

##### **Characterization of Novel Drug Delivery Technology Utilized in TV-46000, a Risperidone Extended-Release Injectable Suspension Formulation**

*Poster Presenter: Kelli Franzenburg*

*Co-Authors: Ivana Mijakovac, Lana Brkljacic, Ivana Soljic Jerbic*

#### **SUMMARY:**

**Background** TV-46000 is a risperidone extended-release suspension for subcutaneous (SC) administration in development for the treatment of patients with schizophrenia. TV-46000 is based on a novel copolymer drug delivery technology (licensed from Medincell, Jacou, France) [1] that differentiates it from other long-acting injectable antipsychotic products. It is a ready-to-use, long-term stable formulation provided in pre-filled syringe for convenient handling by users. The present report

describes copolymer-based drug delivery technology utilized in TV-46000 and evaluation of the extended release mechanism that enables flexible, interchangeable dosing regimens that is achieved with small injection volumes (not more than 1 mL). **Methods** The principle of the TV-46000 formulation is based on the in situ forming technology using biodegradable copolymers dissolved in dimethyl sulfoxide (DMSO), that allows a slow release of the risperidone over time. In order to evaluate the extended release mechanism of risperidone from the novel copolymer-based drug delivery system, a depot formation study was performed using an in vitro experimental set up under physiological conditions at pH 7.4 and 37°C to mimic the subcutaneous environment. Additional measures included swelling behavior of the depot (gravimetric testing), release kinetic of DMSO (gas chromatography - GC), changes in the copolymer molecular weights (gel permeation chromatography - GPC) along with drug release (in-vitro drug release testing) and morphological properties of the formed depot (environmental scanning electron microscope - ESEM). **Results** The TV-46000 formulation was evaluated in the depot formation study to elucidate the extended release mechanism of risperidone from the novel copolymer-based drug delivery system. During the study, it was confirmed that formation of the depot is governed by exposure of the drug suspension to the aqueous environment leading to the precipitation of the biodegradable copolymers and solvent exchange process between DMSO and water (DMSO diffuses out of the formulation while water penetrates). Consequently, a biodegradable depot of specific morphology is formed with risperidone trapped and distributed within [2,3]. Drug is slowly released from the depot as a combined mechanism of drug diffusion and gradual copolymer degradation and erosion. The copolymers used in TV-46000 are designed to degrade by hydrolysis of the copolymers' ester bonds and consequently release risperidone over an extended period, allowing for dosing intervals of once monthly or once every two months. **Conclusions** TV-46000 is a ready-to-use injectable risperidone formulation using a novel copolymer drug delivery technology that when injected subcutaneously forms a biodegradable depot that releases risperidone over time and maintains

suitable exposure over flexible, interchangeable once monthly or once every two months dosing intervals.

**No. 79**

**“Yuh a Idiat, Yuh Fool-Fool”: Beliefs, Values and Lived Experiences of Afro-Caribbean People With Psychosis, Psychiatric Care, Mental Health**

*Poster Presenter: Xin Qiang Yang, M.D., M.Sc.*

*Lead Author: Sommer Knight, M.Sc.*

**SUMMARY:**

**Context:** The mental health disparities suffered by the Afro-Caribbean diaspora living in Western societies (often simplistically and quite mistakenly grouped under "Black minorities") are well observed and documented, though they remain incompletely understood. In our own clinical services for psychosis (first episode or otherwise) set in a multicultural neighbourhood of Montreal, Canada, emerging evidence suggests potential and need for care to be culturally adapted to Afro-Caribbean patients and families (within local circumstances). **Objectives:** In order to aid the clinician (or other stakeholders) in beginning the process of cultural adaption to this population, we ask: (A) Who are the Afro-Caribbeans? (B) What are their shared values, beliefs, attitudes, experiences, practices, traditions in relation to psychosis, psychiatric care, mental health? **Methods:** Scoping review; Medline, PsychINFO and Scopus were searched; two co-authors reviewed 764 articles, selecting 220, which were analyzed inductively (thematic content analysis). **Results:** Recapitulating the story of the Caribbean people and region, we highlight the heterogeneity therein, we survey major historical currents and outside influences, including successive waves of migration abroad. We roughly contrast and compare the composition of the diaspora living in Western societies, namely, the UK, the US and Canada. With roots in history so troubled, five mutually dependent themes emerged when examining literature of Afro-Caribbean ties with psychosis and psychiatry. One, collectivist thinking and ways of life. Two, the group's intimate (but diverse) connection with religion and spirituality. Three, colonialism and its lasting effects on individuals. Four, acculturation with migration to a

new country and its cross-generational impact. Five, continued, perpetuated cultural mistrust, including a deep mistrust of institutions. **Discussion and conclusion:** Historical, sociocultural, geopolitical interpretations help decipher the Afro-Caribbean perception, and reality, of mental health and illness, psychosis at the forefront. We supplement our review with evidence-based, practical tips for the clinical environment, chief of which is the involvement of the family or even the community to deepen the appreciation for and analysis of the clinical presentation. Tending to these broader contexts, as well as becoming aware of one's own views and assumptions, we hope, will help reduce bias, avoid misdiagnosis, optimize treatment, engage patient and families in care and recovery, and ultimately, achieving lasting change by the empowerment Afro-Caribbean individuals and communities. Addressing racial, ethnic, cultural disparities is an ethical, moral responsibility, and an emergency; especially in the field of mental health that intends to serve and promote the well-being of all; especially when it pertains to this sizeable, valuable but oft neglected minority: Afro-Caribbeans living in Western societies.

**No. 80**

**The Inevitable Lived Differently: Cultural Diversity of Dementia Patients and Caregivers, the Role of Case Management (a Pilot Mixed Methods Study)**

*Poster Presenter: Xin Qiang Yang, M.D., M.Sc.*

*Co-Authors: Isabelle Vedel, M.D., Ph.D., Vladimir Khanassov, M.D., M.Sc.*

**SUMMARY:**

**Context:** The Canadian reality of dementia care is complicated by the cultural diversity of patients and their informal caregivers. Case management is an evidence-based model of care. Case managers assess and follow patients, coordinate care, collaborate closely with health and community resources; a process with potential and need to be attuned to culturally sensitive contexts. **Objectives:** (A) In our clinic, set in a multicultural neighbourhood of Montreal, how culturally diverse are patients living with dementia and their caregivers; do needs differ between Canadian- and foreign-born individuals? (B) What are their experiences with the illness, with our

care environment? **Methods:** Mixed methods, sequential explanatory design consisting of (A) a cross-sectional study of participant characteristics and needs (validated questionnaires) and (B) a qualitative descriptive study (individual interviews), where both involved 15 pairs of patients and caregivers. **Results:** Quantitatively, foreign-born patients had more needs compared to their Canadian-born counterparts. Foreign-born caregivers reported more stress, more problems and increased need for services. Qualitatively, the reported experiences of Canadian- vs. foreign-born individuals were largely similar and could not definitively explain quantitative differences. Both groups were enthusiastic to the case manager as a go-to person (other than the busy GP) to deepen their appreciation of the diagnosis and navigate solutions to their needs. The care delivered seemed "culturally competent". Importantly, we also describe patients and caregivers themselves showing "cultural competence" when receiving care, when faced with the cultural diversity of their health professionals, and in a broader sense, encountering healthcare culture and values at times different from that which they expect or are used to (a concept or quality usually reserved to service providers, not service users). **Conclusion:** Quantitative results are hypothesis-generating. Qualitative results validate case management as a promising asset in the provision of services for a challenging diagnosis, especially where there is necessity to foster long-term relationships of care and trust with a heterogeneous clientele (culturally or otherwise) with diverse, dynamic needs that are best addressed through equally dynamic, interdisciplinary effort. The service users' own resilience, including aspects of "cultural competency", should be recognized, celebrated, cultivated in clinic. There is incentive, upstream, to promote such "competency" in at-risk groups (e.g. refugees) and societywide. The present pilot illustrated the particular suitability of mixed methods to this area of study, where complex, deeply human issues intersect (i.e. of culture, of life-altering diagnosis, of care) and traditional methods are left wanting. The cultural dimension deserves further study, to better serve all members of a population already vulnerable by age and disease.

## No. 81

### Age and Gender Correlation With the Macular Thickness and RNFL (Retinal Nerve Fibre Layer) in Healthy Population as Potential Biomarkers in Alzheimer

*Poster Presenter: Adriana Mihai, M.D.*

#### SUMMARY:

In patients with Alzheimer Disease, the thickness of the RNFL is higher than in the group of the general population. These differences are statistically significant in the upper quadrant and the nasal quadrant. (1) These results may be correlated with the idea of an inflammatory or gliosis process present in patients with Alzheimer Disease, which could be a potential first warning sign of a potential risk of cognitive decline in old age. In the scientific literature, there is a significant variety of values of ocular parameters in the healthy population. Studies have been performed to establish a generally valid range of normal values, but these results have also been shown to be heterogeneous. The objectives of our study were 1. To determine normative values regarding macular thickness and RNFL in the caucasian healthy population, 2. Comparative analysis of these parameters and identification of potential gender differences and 3. Analysis of these parameters according to age and identification of a potential reduction in them with age. Material and method: We performed an observational, retrospective, cross-sectional study in which we analyzed the OCT analysis bulletins of a group of individuals without retinal pathology. The data were collected from 2009-2018. Statistical analysis was performed using SPSS. We analyzed the average thickness of the two parameters according to gender and age. The Student's test was used to compare the data by sex, and the ANOVA test and the Bonferroni multiple comparison test were used to compare the data by age. The Pearson correlation test was applied to the correlation analysis. The level of statistical significance was set at  $p < 0.05$ . Results: The study looked at macular thickness at 1387 eyes and RNFL thickness at 1372 eyes from healthy individuals aged 18 to 94 years. In all 4 quadrants, the thickness of the RNFL was higher in men than in women, but only in the nasal quadrant this difference has a statistically significant value. These results are in line with the results obtained in other



studies [2,3] which in turn did not identify statistically significant differences in RNFL thickness by sex. Regarding the analysis of RNFL thickness according to age, it is observed that there is a weak but statistically significant negative correlation between advancing age and RNFL thickness in all 4 quadrants. Macular thickness does not appear to correlate with aging in most quadrants. Conclusions: RNFL redness is higher in men compared to women, but the differences are not statistically significant, except for the nasal quadrant. There is a weak but statistically significant negative correlation between the thickness of each RNFL quadrant and aging.

## No. 82

### **Trazodone Prescribing in Insomnia: A Real-World Cohort Study**

*Poster Presenter: William Vaughn McCall, M.D.*

*Co-Authors: Ajay Ahuja, Antonio Olivieri, Alexander Busser, Michael Grandner*

#### **SUMMARY:**

**Background:** Trazodone is a triazolopyridine derivative indicated at doses of 150-400 mg/day for depressive disorder per the FDA label.<sup>1,2</sup> However, it is often prescribed off-label to treat insomnia, typically at doses below 150mg daily<sup>1,2</sup> despite Clinical Practice Guidelines<sup>3</sup> recommendations against use of trazodone treatment for insomnia.

**Objective:** To determine real-world prescribing patterns for trazodone in the context of insomnia disorder we conducted a large-scale cohort study that compared trazodone prescribing for patients with insomnia versus for patients without a reported diagnosis of insomnia. **Methods:** This US primary care claims database-based cohort study leveraged claims data (medical and pharmacy from the HealthVerity dataset) collected between October 2015 and March 2020 for patients aged = 18 years. Prescription patterns for trazodone were analyzed for patients with and without an insomnia diagnosis.

**Results:** Of approximately 1.4 million eligible individuals from the claims database, approximately 310,000 had a diagnosis of insomnia, of which approximately 170,000 were receiving medical treatment for insomnia. Out of the 1.4 million individuals, 113,557 unique patients received trazodone (mean age 49, 66% female). Overall, 40%

of all trazodone prescriptions in this study were written for patients who had a diagnosis of insomnia. Among all patients with insomnia receiving trazodone, 55% had a concurrent diagnosis of depression, while among patients without insomnia receiving trazodone, 53% had a diagnosis of depression. There were generally similar, although statistically significantly different, dosing patterns between patients with insomnia versus those without insomnia ( $P < 0.001$ ). Furthermore, among patients with depression, 61% of those with concomitant insomnia received trazodone  $< 150\text{mg/d}$  ("low dose" trazodone) compared to 60% of those without insomnia. Among patients without depression, 68% with insomnia versus 64% without insomnia (i.e. neither condition) received "low dose" trazodone. Patients with neither insomnia nor depression often carried other diagnoses, such as anxiety disorder, pain, fibromyalgia, diabetic neuropathy, and sexual dysfunction. **Conclusions:** This very large real-world study confirmed frequent usage of trazodone for indications other than depression as well as prescription of doses that differ from the FDA label. Furthermore, the distribution of dosing was generally similar for patients with and without insomnia, reflecting a lack of correlation between "low-dose" trazodone and insomnia treatment. A majority of treatments were  $< 150\text{mg/d}$ , even in patients with a diagnosis of depression over the past year, perhaps reflecting intent to treat other conditions, such as insomnia, despite guidelines advocating the contrary.

## No. 83

### **Service Evaluation of Sleep Interventions for Adults With Intellectual Disabilities Accessing a Community Team.**

*Poster Presenter: Paul Shanahan*

#### **SUMMARY:**

**Background:** It is estimated that up to 32% of adults with intellectual disability (ID) experience multiple sleep difficulties. Evidence indicates that sleep difficulties can cause short- and long-term physical health difficulties and behaviours that challenge in adults with ID. Adults with ID who present with behaviours that challenge typically have a higher cost of support and increased access to specialists in

community teams. The present service evaluation explored sleep difficulties in an adult community ID team. This exploration reviewed assessment, intervention and service provider perceived outcomes over a two-year period. Methods: Specialist service providers in a multidisciplinary community ID team were asked to provide information about those who were affected by a sleep difficulty. This included general demographic information, diagnoses, current medication, referral reasons, assessments, interventions and outcomes. Data was collected over one month for two years. Results: Nine percent of those accessing the service were reported to experience a sleep difficulty (n = 97, total accessing the service 1033). The majority of those reporting the sleep difficulties were parents or carers. The most commonly reported response for sleep difficulty was unknown. Of the 99 included service users, 73 were male. Service users aged 20-29 (32.6%), 30-39(14.3%), and 60-69 (17%) were reported most often. Most common diagnoses included autism (41.8-53%), epilepsy (21.2-23.4%) and Down Syndrome (17-18%). The most common reason for referral was behaviours that challenge, with 16% for sleep disturbance. Specialist sleep advice and medication were the most utilised interventions. 50% of the specialist sleep advice and 77.3% of the medication use was reported to result in clinically significant outcomes. 14.5% of service providers were unsure as to whether an intervention had any impact. Conclusions: Overall, service providers suggested that specialist sleep advice and medication had clinically significant outcomes. The current evaluation highlighted the need for increased awareness of sleep disorders to guide non-pharmacological interventions. Additionally, an improved understanding as to the cause of sleep disorders in those with autism spectrum disorders, epilepsy, and Down Syndrome could inform future interventions. Finally, objective measure, such as actigraphy should be considered in community teams to support individuals with ID and difficulty sleeping.

#### **No. 84**

##### **Prevalence of Suicidal Behaviors in Residents of Long-Term Care Facilities: A Systematic Review and Meta-Analysis**

*Poster Presenter: Yasir Masood*

#### **SUMMARY:**

**BACKGROUND:** Suicidal behavior in elderly (65 years and older) is a serious public health concern in many countries. Understanding the context of long-term care facilities and assessing if they are acceptable points of engagement for older individuals is essential for preventing suicide in later life. Their complex care schedules, debilitating age-related morbidities, lack of family support and numerous other factors make them prone to experience psychiatric issues. Such untreated or unrecognized cases can lead to adverse outcomes such as suicidal behaviors. **OBJECTIVE:** The purpose of this systematic review is to pool and meta-analyze the data on prevalence of suicidal behaviors in geriatric population living in long-term care facilities. **METHODS:** A systematic review was performed in accordance with the PRISMA guidelines. The utilized databases were Pubmed, Medline, Google scholar and Scopus. The Meta-analysis was performed using OpenMeta[analyst] software. Subgroup analysis was performed on gender, and type of suicidal behavior (e.g. ideation, completed suicide), diagnostic scale, region of study and co-morbid psychiatric illnesses. **RESULTS:** Pooled data from twenty cross-sectional studies with 3,023,224 participants, showed the prevalence of suicidal behavior is 6.4% (95% CI= 5.7-7) in geriatric population living in LTC. However, the prevalence of suicidal behavior in female LTC residents (15.8%) was much higher than male residents (7.9%). **CONCLUSION:** The pooled prevalence of suicidal behavior among geriatric residents of LTC was found to be moderately high all over the world. Clinicians, administrators, and policy makers should consider ways to promote the mental health and well-being of older adults experiencing functioning limitations and their families. It is essential a critical evaluation of recent findings concerning specific risk factors for suicidal thoughts and behaviors among older people living in long term care facilities are studied in greater detail.

#### **No. 85**

##### **Discussing the Prevalence, Financial Implications, and Positive and Negative Impacts of Suicide Depiction in Film**

*Poster Presenter: Mohammed Malik*

## SUMMARY:

Movies are a significant portion of the media that individuals consume throughout the world today. As access to media has increased over recent years, there has been growing concern that there is not proper regulation for sensitive content that could be especially distressing to certain populations. Specifically, suicide is a topic that comes up frequently in media and is many times sensationalized. Research has shown that this sensationalism can lead to an increase in imitation, or “copycat” suicidal behavior. Thus, groups at higher risk for suicide can be significantly affected by such content. These groups include younger adults/adolescents as well as those experiencing depression and other mental health conditions. However, it has also been shown that there can be positive benefits of depicting suicidal ideation when proper understanding of mental health and behaviors such as seeking help and mastery of suicidal crises are shown. In this work, we attempted to analyze the prevalence of suicide depiction over time and if there is a financial incentive to depict suicide in film. By scraping film data from BoxOfficeMojo.com, we were able to obtain domestic box office data from 1977-2020. Additionally, we scraped Wikipedia movie plot summaries to identify which films depicted suicide (our search terms included “suicide” and “suicidal”). This resulted in a total set of 11,369 films. Results showed that the number of films depicting suicide per year has increased over time, and that films depicting suicide earned on average \$4,075,269 more than film that did not depict suicide ( $p$ -value = .002). Furthermore, movies depicting suicide had a higher IMDb rating than movies that did not, as well as capturing a significant percentage of Academy awards, both of which can act as markers for critical success and approval from the general public and film critics. In conclusion, suicide depiction in film is a topic that must be discussed further and properly regulated. This work adds to the literature by showing the financial and critical implications of depicting suicide in film. Furthermore, we offer suggestions on how to encourage the positive impact of suicide depiction and decrease sensationalism.

No. 86

## The Correlation Between Current Marijuana Use and Suicide Attempts in U.S. High School Students Over Three Decades of the CDC Youth Risk Behavior Survey

Poster Presenter: Amy Gallop, M.D.

Co-Authors: James Weagley, Ph.D., Erick Messias

## SUMMARY:

**Background:** Suicide is the second leading cause of death in the adolescent population. There are social factors that contribute to these trends, including rapid changes in communication, decreased face-to-face social interactions and increased prevalence of mental health conditions. There is now a higher risk of exposure to high potency marijuana, as THC content has increased over this period. Marijuana use has been associated with increased psychotic and mood disorders along with changes in cognition and academic and vocational performance. The literature has been inconclusive regarding the correlation between suicide and marijuana use. This study aims to examine the relationship between current marijuana use and suicide attempts, reported in a large nationally representative sample of US high school students. **Methods:** Data was obtained from fifteen timepoints over 28 years (1991 to 2019) of the Centers for Disease Prevention and Control’s Youth Risk Behavior Surveillance (YBRS) system. Pooled odds ratios were calculated looking specifically at the relationship between current marijuana use and reported suicide attempts. **Results:** The rate of current marijuana use reported by US high school students increased from 12.7% in 1991 to 22.5% in 2019. The prevalence of reported suicide attempts increased from 7.6% to 9.9% in the same period. Current marijuana use was associated with a significantly elevated risk of attempted suicide with a pooled odds ratio of 2.61 (95% CI: 2.47 to 2.76). Correlational analysis indicated that the odds ratio increased significantly over the 28-year time-period included in this dataset (Pearson’s  $r=0.73$ ,  $p$ -value=0.002), with a minimum odds ratio of 2.29 (95% CI: 1.99 to 2.64) in 1995 and a maximum of 3.21 (95% CI: 2.77 to 3.73) in 2017. **Conclusions:** There is a strong association between current marijuana use and suicide attempts for all timepoints studied and in the pooled data. This relationship strengthened over the duration of this

study and was driven by an increase in the rate of attempted suicide amongst marijuana users. There are probable explanations for this relationship. The increased potency of marijuana available to high schoolers over this period may have a differential impact on suicidal tendencies through biological mechanisms. Another possibility is that utilization of marijuana to self-medicate for depression has increased, potentially influenced by the broad legalization of marijuana for medical use in adults over the past three decades. Confounding characteristics include personality disorders traits and behavioral problems as seen in previous studies. The YBRS data did not quantify frequency of cannabis use, prior psychiatric care and lethality of suicide attempt, which would all be important considerations. Regardless, this adds to the growing body of literature that raises caution over marijuana use in the adolescent population.

#### **No. 87**

##### **Seasonal Trends in Hospitalization of Attempted Suicide and Self-Inflicted Injury in United States Adults**

*Poster Presenter: Eduardo Espiridion, M.D.*

*Co-Author: Adeolu Olufunso Oladunjoye, M.D., M.P.H.*

#### **SUMMARY:**

Introduction: Suicide is the 10th leading cause of death in the United States (US) and the prevalence continues to increase. It is estimated that there is an average of 25 attempted suicides for every suicide death in the US, and the economic burden of suicide and attempted suicide is high. Identification of those at risk for suicide and attempted suicide can help with early and prompt intervention. Studies in Europe and Asia have shown that there is a relationship between seasonal patterns and suicidal risk. However, little is known about the seasonal patterns of suicidal attempts in the US. Therefore, our study aimed to assess seasonal patterns by days of the week and months of the year in the US. Methods: Hospitalized adult patients with suicide attempts and self-inflicted injury were identified using the discharge data from the National Inpatient Sample (NIS) from January 1, 2010 to December 31, 2014. We looked at the seasonal trends of patients

with attempted suicide and self-inflicted injury by weekday vs weekend and month of the year over the five-year study period. We also assessed two groups, male and female with attempted suicide and compared trends and contributing risk factors over the study period using Student's t-test and chi-square test. Results: A total of 249,845 patients with attempted suicide and self-inflicted injury were reported during the study period with the prevalence rate increase of 15% among high 70% were males, 65.5% white and 38.8% were age 40-64 years old. An overall prevalence rate of about 168-200 per 100,000 hospitalizations was reported. There was a higher admission rate on weekends as compared to weekdays (190-300 vs 150-178 per 100,000 hospitalizations). Attempted suicide and self-injury admissions peaked during the months of July and August with a peak period range of 200-230 per 100,000 hospitalizations in a year Conclusion: The prevalence of attempted suicide is steadily rising. Awareness of the seasonal and epidemiological trends of attempted suicide and self-inflicted injury is a very important step towards developing effective strategies to prevent suicide and attempted suicide.

#### **No. 88**

##### **A Retrospective Review of the Clinical Significance of the Outcome Questionnaire (OQ) Measure in Patients at a Psychiatric Adult Partial Hospital Program**

*Poster Presenter: Eduardo Espiridion, M.D.*

*Co-Author: Adeolu Olufunso Oladunjoye, M.D., M.P.H.*

#### **SUMMARY:**

Introduction: Outcome Questionnaire (OQ) measure is becoming a more popular assessment tool for monitoring treatment progress in Psychiatry at different settings. It can also be used in non-clinical populations. However, little is known about the evaluation of this tool in the Adult Partial Hospital Program (PHP) Methods: We conducted a study among patient in an adult PHP where we extracted data from the OQ analysis program recorded for patients from January 1, 2015 to July 31, 2020. Results: We studied a total of 742 patients among which 509 (68.4%) were males. The mean age was 38.58 years. Most of the patients have depressive

disorders (56.9%). The mean number day of admission were 17.37 days. There is a consistent decrease in the total score average OQ score from initial to final measure with the year 2019 being 31.99 followed by 2017 (30.05) then 2020 (29.56) then 2015/2016 (28.38) and 2018 (27.27) p0.001. Also, for treatment progress it was observed that in years 2015/2016, there was significant improvement in 71.67% of the patients; in 2017, there was significant improvement in 78.53% of the patients; in 2018, there was significant improvement in 77.71% of the patients; while in 2019, there was significant improvement in 76.05% of the patients, and in 2020, there was significant improvement in 70.18% of the patients. Conclusion: The direct benefit of the OQ measure to patients is to provide objective measurements of assessing clinical improvement or deterioration in the treatment progress of their clinical condition. Our study has proved that this is a useful tool to assess such in the Adult PHP.

#### **No. 89**

##### **Psychosocial Therapeutic Interventions as an Adjunctive Treatment for Residual Symptoms in Schizophrenia: A Comprehensive Review**

*Poster Presenter: Lauren Losak*

*Lead Author: Mehwish Hina, M.D.*

*Co-Author: Mahnoor Azmat, M.D.*

#### **SUMMARY:**

Schizophrenia is a complex behavioral and cognitive disorder that is estimated to impact 21 million people around the world (1,2). Patients typically present in young adulthood with positive (hallucinations, delusions, disorganized speech and catatonic behavior) and negative (apathy, alogia, social withdrawal) symptoms (1,3). Antipsychotics are the primary treatment of choice in the management of schizophrenia (4). While pharmacological interventions can effectively treat positive symptoms, the negative symptoms and cognitive symptoms may sometimes remain untreated (5). These residual symptoms are a major health concern and can negatively impact the disease outcome, resulting in impaired social functioning and an overall poor quality of life (QoL) (6). A number of non-pharmacological interventions are available to help ameliorate these negative and

cognitive symptoms. In this review, we discuss psychosocial therapeutic interventions that can be used as an adjunctive treatment for residual symptoms. These include social skills training, family interventions, cognitive behavioral therapy, cognitive remediation, psychosocial rehabilitation, and psychoeducation programs among many others. Social skill training allows patients to gain independent living skills to be able to function in their communities (7). Family interventions focus on improving carer distress and well-being, helping them provide the patient with a better quality of care (7). The goal of cognitive behavioral therapy (CBT) is to change the way patients process distressing thoughts and learn new behavioral habits (7). Cognitive remediation aims to improve cognitive abilities through repeated practice of cognitive tasks. Psychosocial rehabilitation forms a community for the patient that gives resources to assist in living, working, and social conditions (7). Psychoeducation programs help patients and their families focus on the present and future instead of the past (7). Based on the review, it can be concluded that these interventions effectively address the residual negative and cognitive symptoms. Since each therapy addresses significantly different functional domains, it is also important to identify the type of therapy that would best suit the patient and help address individual needs.

#### **No. 90**

##### **What Makes Resident Well-Being Initiatives Successful? Addressing Burnout in Our Residency Program and Others.**

*Poster Presenter: Adam Joshua Schein, M.D.*

*Co-Author: Vishnupriya Samarendra*

#### **SUMMARY:**

Resident well-being is an issue that is increasingly gaining the attention it deserves. Burnt out residents and physicians are less able to care for their patients, colleagues, loved ones and themselves. Since 2018, a well-being committee led by residents of our psychiatry training program at Westchester Medical Center has attempted to monitor and address signs of burnout among our colleagues. A series of surveys both hospital-wide and in-house revealed that a significant percentage of residents in our program

were experiencing a variety of symptoms of burnout, including exhaustion and depersonalization. These were buffered by a high degree of personal feelings of accomplishment and presence of peer support. Based on resident-driven proposals, a series of interventions have since been made with the goal of improving the well-being of our psychiatry residents. These range from simplifying the process of taking time off to addressing perceived safety issues. They include changes both intra- and interdepartmental. Additional changes underway including renovation and re-purposing of certain shared spaces and modifications to workflow and our didactic curriculum. The objectives of this presentation include the following: - to analyze the impact that our initiatives have had in our psychiatry residency program - to compare the effectiveness of initiatives implemented at various other hospitals as described in the literature - to explore the factors that contribute to the success of a well-being initiative - to identify the factors that make some residents more vulnerable to burnout than others, and the degree to which the specialty itself plays a role. - to discuss the methods for assessing burnout and their limitations The ultimate hope of this study is to develop a model for creating sustainable improvements in resident well-being that can inform the efforts of other programs around the country.

#### **No. 91**

##### **Addressing Barriers to Perinatal Mental Health Care in Safety Net Settings: A Feasibility Pilot Study**

*Poster Presenter: Rita Elena Morales-Wang, M.D.*

*Co-Authors: Pilar Cristina Abascal, M.D., Ana Gonzalez, Ana Delgado, Christina V. Mangurian, M.D.*

#### **SUMMARY:**

**Background:** Perinatal mental health is a major public health concern, given that untreated psychiatric illness during pregnancy and the postpartum period carries significant risk to the mother, as well as the fetus or infant. Women with untreated depression have higher rates of suicidal thoughts, self-harm and increased risk of psychiatric hospitalization within the first 12 months postpartum (1). Lack of access to mental health care remains a concern: among women who screened

positive for psychiatric disorders during pregnancy, only 23% received treatment for those conditions (2). Furthermore, Black and Latina women and low-income women are not only at higher risk of developing perinatal mood and anxiety disorders, they are also less likely to receive adequate treatment (3, 4, 5). This study will implement a community referral pilot program to provide pregnant and post-partum patients from a federally qualified health clinic access to public mental health services. The pilot partnership will aim to establish a referral pathway for pregnant and postpartum women needing timely access to specialized mental health treatment. Our study aims to examine the feasibility of the pilot program and identify outcome measures that could be routinely collected in the future. **Methods:** *Setting:* Mission Neighborhood Health Center (MNHC) provides care to medically underserved individuals in San Francisco's Mission District, but lacks access to onsite specialty mental health care. Mission Mental Health Clinic (MMHC) is a neighboring community mental health clinic that provides comprehensive services to patients with serious mental illness. Both MNHC and MMHC specialize in treating Latinx patients. *Procedure:* We will develop and test an algorithm to triage MNHC mental health evaluations to either 1) in-house care; 2) psychiatric care at MMHC or 3) linkage to external providers. We will collect data on the referral process and outcomes (e.g., depression screening, reasons for referral, uptake of referral and treatment). We will also extract electronic health data on pregnant women seen at MNHC from 12/1/2021 through 2/1/2022 and conduct descriptive analyses on: (i) how many individuals were identified as having mental health needs by their prenatal care provider, (ii) where they were referred, (iii) where they received care, and (iv) which electronic health systems stored their medical history. **Results:** Preliminary analyses of the pilot program will be completed by the Annual Meeting in May 2022. **Conclusions:** Our research raises awareness about the challenges of coordination of perinatal and postnatal mental health in the safety net. This pilot study will provide critical data to develop a model to facilitate clinical decision-making and improve coordination of care for historically marginalized pregnant and postpartum women. Findings will yield much needed information that

could be shared with other settings serving this population.

#### **No. 92**

##### **Ethical Considerations in the Treatment of Chronic Psychosis in a Perivable Pregnancy**

*Poster Presenter: Michelle Tu Anh Nguyen, M.D.*

*Co-Authors: Eric Rafla-Yuan, M.D., Emily Boyd, Emily Dossett*

#### **SUMMARY:**

**Background:** Treatment of psychotic disorders in pregnancy is often ethically and clinically challenging, especially when psychotic symptoms impair decision-making capacity. There are several competing ethical obligations to consider: the ethical obligation to maternal autonomy, the maternal and fetal beneficence-based obligations to treat peripartum psychosis, and the fetal beneficence-based obligation to minimize teratogenic exposure.

**Objective:** This article outlines an ethical framework for clinical decision-making for the management of chronic psychosis in pregnancy, with an emphasis on special considerations in the preivable and perivable period. **Case Presentation:** A 31-year-old gravida 2, para 1 with intrauterine pregnancy at 12 weeks and 4 days gestation was brought to the emergency department by her husband seven months after delivering her first child, due to sudden onset of behavioral changes that included self-isolation, not eating, and not taking care of her child. Her past medical history included hypothyroidism and inflammatory bowel disease, but no prior psychiatric illness. After being admitted to the psychiatric hospital, she continued to have poor oral intake and weight loss despite initial inpatient treatment with antipsychotics, levothyroxine, and discontinuation of corticosteroids. Her pregnancy was also complicated by the diagnosis of multiple fetal anomalies at 20 weeks gestation, when the fetus was perivable. Postpartum psychosis was eventually determined to be the patient's most likely diagnosis, given that the onset of her mental illness occurred after the birth of her first child and then persisted into her current short-interval pregnancy. Lithium, the first-line treatment for postpartum psychosis, was thus initiated at 20 weeks and 4 days gestation. Within one week of starting lithium, her negative symptoms

resolved and she had improved nutritional status and weight gain; however, she still required intermittent prompting from the healthcare team to take her medications and eat her food. **Conclusions:** For preivable or perivable pregnancies, the patient and/or surrogate should decide whether to pursue prenatal genetic screening and invasive diagnostic testing, as well as whether to continue or terminate the pregnancy. When the choice is made to continue the pregnancy, initiation of long-term psychiatric treatment (including medications with potential adverse fetal effects) should be based on shared decision-making between the physician and the patient and/or surrogate. Although some pharmacologic interventions may have potential adverse effects on the developing fetus, the use of psychotropic medications can be ethically justified, even if the patient herself does not have the capacity to consent and requires a surrogate, when the goal is to restore maternal autonomy and minimize the risks of maternal and fetal harm from untreated psychiatric illness.

#### **No. 93**

##### **Nihilistic Delusions and ECT for Psychotic Depression: A Case Report of Severe Decompensation in the Setting of the COVID-19 Pandemic**

*Poster Presenter: Amal Bhullar, M.D.*

*Co-Author: Savitha Puttaiah, M.D.*

#### **SUMMARY:**

Ms. X is a 45 year old Caucasian female with a past psychiatric history of 'prior polysubstance use' and reported Schizophrenia who self-presents to the ED with complaints of "I have Schizophrenia." She was unable to provide much history and when asked further questions, she would scream at staff. Per family, she regularly used methamphetamine, heroin, and marijuana. She failed rehab due to being uncooperative with staff. She was eventually admitted to a state hospital, where their records indicate that she was diagnosed with "primary psychosis related to polysubstance use", despite a negative UDS on arrival. She reportedly was easily agitated, impulsive, and paranoid. Her symptoms were attributed to behavioral issues and she was discharged to her father's home in another state

once she appeared not to be in a crisis. She left the home and ended up in a shelter prior to presenting to our hospital. Medical workup was unremarkable and she was transferred to the inpatient psychiatric unit. Multiple medications were trialed over the 2 month inpatient stay, including zydys, depakote, risperidone, ativan, klonopin, etc., with little therapeutic response. A behavioral therapist was recruited given much of patient's conduct appeared behavioral; despite efforts, her conduct largely remained unchanged. With the COVID-19 pandemic, many restrictions were placed including severely restricting visitors. However in Ms. X's case, it was clear that an in-person family meeting would be necessary. During the meeting with her father, she repeatedly voiced her fears that she will go to hell and appeared dysphoric. This nihilistic delusion brought major depressive disorder with psychotic features higher on the differential, with ECT as the most optimal treatment. Ms. X's father subsequently became her Health Care Surrogate and a court ordered total of up to 12 ECT treatments were approved. Upon completion of the 5th ECT treatment, she had a dramatic response. She had a marked improvement in her mood and thought process, was attending group therapy for the first time, was polite, thankful, apologetic for her previous agitated behavior. Follow up maintenance ECT in her home state was set up at the time of discharge. This case highlights a scenario of a patient who was deemed at her "baseline" in the midst of a once-in-a-lifetime pandemic who passed through the state hospital and several community hospitals without therapeutic treatment. Overcoming limitations brought on by resource allocation, broadening differential without being overly-influenced by information at hand, working closely with the family who themselves had to be educated about mental health and treatment options, help overcome stigma faced by the family and the miracle of ECT are all contributing factors that resulted in Ms. X's success. While we may not know the answers on how to overcome these impacts, it is crucial that these issues be discussed so cases like Ms. X's will end in improved outcomes.

#### **No. 94**

#### **Compensatory and Lifestyle-Based Brain Health Program for Subjective Cognitive Decline: Self-Implementation Versus Coaching**

*Poster Presenter: Harris Liou*

*Co-Authors: Cynthia M. Stonnington, M.D., Dona Locke, Sarah Tomaszewski Farias*

#### **SUMMARY:**

Background: Subjective cognitive decline (SCD) is subjective and/or subtle objective cognitive decline not meeting objective criteria for cognitive impairment that often precedes more severe forms of impairment<sup>1</sup>. Currently, there is no consensus regarding the standard of care for SCD, and providers are to simply monitor without treating<sup>2</sup>. Although recent studies have explored the potential of multidomain brain health programs, there is a dearth of literature on operationalizing this emerging research to create a clinical treatment program specifically for SCD<sup>3,4</sup>. Method: Patients seen by the primary care, geriatrics, and behavioral neurology services at our institution presenting with SCD were recruited via a patient-appropriate flyer. After all participants were provided with program materials, subjects were randomized to attend a 10-week intervention designed to support program implementation (N=7) or the control group of implementing the program on their own (N=10). The intervention was administered over 10 weeks in 2-hour weekly sessions provided in a group class format. The program included 2 main components: 1) a calendar-based executive and memory support system for compensatory training and 2) training in healthy lifestyle. Outcomes were measured at baseline, immediately post-intervention, and at 3- and 6-month follow-up points. Results: Of the 29 patients who provided their contact information to learn more about the trial and were subsequently reached, 21 were enrolled in the study, after which 3 participants dropped out. There were no significant differences between groups for any outcomes. Participants across both groups showed significant improvements with moderate effect sizes in compensatory strategy use, anxiety symptoms, and daily functioning, which were sustained through 6-month follow-up. They also increased physical activity by the end of the intervention period but did not sustain this through 6-month follow-up.



Conclusion: Our study demonstrates the feasibility of a compensatory and lifestyle-based brain health program that improves compensation, anxiety, cognition, and quality of life in patients with SCD. The results warrant further investigation of establishing a standard of care for SCD in the primary care setting.

#### No. 95

##### **Effectiveness of Early Improvement as a Predictor of Clinical Outcomes in 10Hz rTMS and iTBS Treatment for Major Depressive Disorder**

*Poster Presenter: Nathen Spitz, B.A.*

*Co-Authors: Krystal Wen-Tung Nizar, M.D., Ph.D., Aaron Boes, M.D., Ph.D., Nicholas Trapp, M.D., M.S.*

#### **SUMMARY:**

**Background:** Few studies exist directly comparing the ability to predict depression treatment response between intermittent theta-burst stimulation (iTBS) and 10 Hz repetitive transcranial magnetic stimulation (rTMS) in the treatment of major depressive disorder (MDD). Our study sought to test the hypothesis that early clinical improvement could predict treatment response in both iTBS and 10 Hz rTMS groups, and that there would not be significant differences between the two across a variety of improvement criteria. **Methods:** Retrospective analyses of 105 participants with MDD that received 10 Hz rTMS (n=68) and iTBS (n=37) investigated clinical response to treatment using PHQ-9 (Patient Health Questionnaire 9) scores. As our primary analysis, percent changes from baseline to treatment 10 (t10) as well as final treatment (tf) were used to calculate confusion matrices including sensitivity, specificity, and negative predictive value (NPV) to assess early treatment predictive capability of final treatment response. Treatment non-response was defined as <50% according to the literature, and population, data-driven response criteria via kernel density estimates (KDEs) was defined as <40% for 10 Hz and <45% for iTBS. Comparisons were made using two-tailed proportional difference tests. **Results:** Participants with <20% improvement at t10 had a NPV for 10 Hz rTMS and iTBS at 80.0 and 65.0, respectively:  $z = 1.23$ ,  $p = 0.22$ . When the criterion was decreased to <10% improvement, the NPV for 10 Hz and iTBS

decreased to 62.9 and 50.0:  $z = 0.93$ ,  $p = 0.35$ . Lastly, at <0% improvement the NPV for 10 Hz and iTBS decreased further to 45.7 and 35.0:  $z = 0.77$ ,  $p = 0.44$ . Using the KDE, data-driven criteria for non-response for 10 Hz rTMS at <40% and <45% iTBS, using the same parameters, we determined the NPV at the same three cut-offs. At <20% improvement at t10, the NPV for 10 Hz rTMS and iTBS were 83.9 and 68.4, respectively:  $z = 1.28$ ,  $p = 0.20$ . Then at <10% improvement the NPV for 10 Hz and iTBS decreased to 67.7 and 52.6:  $z = 1.07$ ,  $p = 0.28$ . Lastly, at <0% improvement the NPV for 10 Hz and iTBS decreased further to 48.4 and 36.8:  $z = 0.80$ ,  $p = 0.44$ .

**Conclusion:** Patients who fail to achieve at least 20% improvement by session 10 in both 10 Hz rTMS and iTBS groups have ~70% chance of non-response to full courses of treatment. With no statistically significant differences between the predictive capacities of the two modalities across an array of improvement criteria, identifying patients at risk for non-response to treatment affords psychiatrists greater opportunity to adapt treatment strategies to optimize outcomes. This study was funded by the Department of Psychiatry at the University of Iowa and University of Iowa Clinical and Translational Science Award.

#### No. 96

##### **Association of Suicide Rates With State Medicaid Expansion Under the Affordable Care Act**

*Poster Presenter: Hetal Patel, M.D.*

*Co-Authors: Justin Barnes, M.D., M.S., Laura J. Bierut, M.D.*

#### **SUMMARY:**

**Background:** Suicide is the 10<sup>th</sup> leading cause of death in the US and a serious mental health emergency. National programs addressing suicide list access to mental health care as key in prevention, and more large-scale policies are needed to improve access and address this crisis. The Affordable Care Act (ACA) Medicaid Expansion program was implemented in several states with the goal of increased access to the healthcare system. Our aim was to evaluate whether ACA's expansion had any effect on suicide rates in the US. This cross-sectional study compared changes in suicide rates in states that expanded Medicaid under the Affordable

Care Act to states that did not expand Medicaid.

**Methods:** Mortality data from the National Center for Health Statistics was utilized. State-level mortality rates were obtained for individuals ages 20-64 years from 2000-2018. Changes in suicide mortality rates from pre- (2011-2013) to post-expansion (2015-2018) in Medicaid expansion and non-expansion states were compared using difference-in-differences analyses. **Results:** The population at risk (general USA population) was 77.8% White and 50.3% female. There were 213,009 suicides in the study period, primarily occurring in White (89%) and male (76.7%) individuals. Smaller increases in suicide rates were seen from 2011-13 to 2015-18 in Medicaid expansion states (1.09 suicides per 100,000, 95% CI 0.95 to 1.23,  $p < 0.001$ ) than non-expansion states (1.73 suicides per 100,000, 95% CI 1.54 to 1.91,  $p < 0.001$ ). In difference-in-differences analyses, there was a decrease of -0.64 suicides per 100,000 (95% CI -0.87 to -0.41,  $p < 0.001$ ) in Medicaid expansion states relative to non-expansion states, translating to **2,638** suicides that were averted over 2015-18. On stratification, white (-0.64, 95% CI -0.91 to -0.37,  $p < 0.001$ ) and Other individuals (-1.39, 95% CI -2.18 to -0.6,  $p < 0.001$ ) had significant decrease in suicide rates, but Black individuals had a smaller and statistically nonsignificant decrease in suicide rates (-0.44, 95% CI -0.98 to 0.09,  $p = 0.11$ ) **Conclusion:** While suicide rates increased in general in both groups, we showed a relative reduction in suicide mortality among people non-elderly adults in the Medicaid expansion states compared to non-expansion states. As this difference may be linked to increased access to mental healthcare, policymakers should consider suicide prevention as a benefit of expanding access to health.

#### No. 97

#### **Compulsive Cleaning, Bizarre Behavior, and Persecutory Delusions in a 63-Year-Old Woman With Schizoaffective Disorder Using Z-Drug Hypnotics**

*Poster Presenter: Ryan A. Behmer Hansen, M.S.*

*Co-Author: Najeeb Hussain*

#### **SUMMARY:**

Insomnia is common in patients with schizoaffective disorder. Data on pharmaceutical options for its

treatment in patients with schizoaffective disorder are limited. Use of the z-drug hypnotic eszopiclone has shown some promise in this population for reducing insomnia severity [1]. Yet, the use of z-drug hypnotics is not without risk. In this report we present a case of compulsive cleaning, bizarre behavior, and delusions in a patient with schizoaffective disorder and insomnia which we conclude may be attributable to zolpidem use. Ms. R was a 63 year old with schizoaffective disorder, bipolar type, maintained in partial remission with no psychiatric hospitalizations for 11 years prior to presentation on haloperidol 10 mg BID, valproic acid 500 mg BID, and benzotropine 1 mg BID, who was brought in by EMS after exhibiting bizarre threatening behavior, defecating on her neighbor's lawn. Her other home medications included amlodipine 5 mg daily, atorvastatin 40 mg daily, and zolpidem 10 mg at bedtime. The patient stated that she was taking the zolpidem with increasing regularity prior to admission, almost nightly, but never more than one 10 mg tablet per night. In the two weeks prior to admission she had begun exhibiting obsessive-compulsive traits at home; cleaning her house, sorting through old photos, and placing valuable items into trash bags. She revealed that she had intended to "mess up the neighbor's lawn a little," because of persecutory delusions, which had also been developing for two weeks. She was admitted to inpatient psychiatry. She had no memory of the defecating behavioral episode. Her home medications were continued at the same doses, besides zolpidem which was discontinued in favor of hydroxyzine. Early in the hospital stay, she continued her obsessive cleaning behavior, repeatedly wiping down tables in the unit and asking to sweep the floor. Over the course of the week, her paranoid delusions gradually subsided, her obsessive cleaning behaviors decreased, and she began to feel "more like herself." She reported that her sleep was good and she was discharged home with outpatient follow up. In Ms. R's case, there were no changes to her psychotropic medication regimen before or after her admission to the hospital, aside from discontinuing zolpidem and starting hydroxyzine. Her unusual behaviors and paranoia resolved after this change, leading us to conclude that her persecutory delusions and obsessive cleaning behaviors likely were attributable to zolpidem, rather than to an

exacerbation of her schizoaffective disorder. We found one report describing delusions and auditory hallucinations [2], and one other report describing compulsive cleaning activity [3], associated with zolpidem use. The present report can be added to a growing list of reports describing adverse psychotic effects with zolpidem use. Moreover, it illustrates the importance in exploring all potential causes of psychosis in a patient with a primary psychotic disorder.

Tuesday, June 7, 2022

## Virtual Only Posters

### No. 1

#### A Case of Fluoxetine Induced Dystonia

Poster Presenter: Isaac Song

Lead Author: Hojun Yoo, M.D.

Co-Author: Noah D. Villegas, M.D.

#### SUMMARY:

**Background:** There is increasing evidence that selective serotonin reuptake inhibitors (SSRI) use can cause the user to experience extrapyramidal symptoms (EPS). There have been several case studies of patients developing SSRI-induced EPS, thought to be due to an interaction between the serotonergic and dopaminergic neurotransmitter systems (1,3,5). Akathisia is the most reported, though most cases are confounded by concomitant use of other medications that may contribute to the EPS (2,4,5). Here we present a case of fluoxetine-induced EPS in the absence of antipsychotic use that resolved with changing to escitalopram and standing benzotropine. **Method:** A literature search was conducted using Pubmed and Ovid-Medline for cases involving SSRI induced EPS. We also did cross-checks of the reference list cited in existing articles. **Case Presentation:** A 24-year-old female with a history of major depressive disorder without psychotic symptoms and no past medical history was admitted voluntarily to the inpatient psychiatry unit to manage her depression and suicidal thoughts after calling the suicide hotline and presenting to the ED. She was started on 10mg of fluoxetine daily, which was increased to 20mg. After a week, she reported symptoms of oromandibular dystonia. She felt her lips twitching sideways and the right side of her tongue deviating towards the left. This was confirmed upon examination. **Labs:** Patient was not recently on any scheduled antipsychotics and there were no recent administrations of PRN antipsychotics. Patient was given diphenhydramine 50mg IM once and started on a scheduled dose of benzotropine 0.5mg PO BID. Daily Fluoxetine 20mg was discontinued and escitalopram 10mg daily was started to good effect. The patient had no past history of extrapyramidal symptoms. The patient's

vitals were stable with no obvious signs of any systemic disease. Urine drug screen was negative. All other investigations including EKG, CT head, complete metabolic panel including serum electrolytes and liver and renal function tests, and complete blood count with differential were found to be within normal limits. **Conclusion:** In this patient on no antipsychotics with normal vitals and lab values and no signs of infection, no medical history, and no personal and family psychiatric history, fluoxetine was the most likely cause of akathisia. The patient responded positively to diphenhydramine. There were no further EPS symptoms reported with a change of medication to escitalopram and standing benzotropine. This case, along with the other case studies, highlights the growing association of extrapyramidal symptoms in patients started on fluoxetine, even in the absence of antipsychotics.

### No. 2

#### A Case Report of Sertraline-Induced REM and Stage IV Sleep Suppression

Poster Presenter: Hassaan Gooma, M.D.

#### SUMMARY:

**Introduction:** Selective serotonin reuptake inhibitors (SSRIs) such as paroxetine, citalopram, and fluoxetine can suppress rapid eye movement (REM) sleep. It is hypothesized that sertraline may act similarly to other SSRIs suppressing REM sleep. One smaller study suggested that sertraline can lengthen REM sleep latency, decrease the average number of REM periods by 38%, but REM activity was significantly increased. Another study suggested that sertraline may induce REM sleep behavior disorder. To date, it is unclear what sertraline's effect on stage IV of sleep might be. **Methods:** We present a case report of sertraline-induced REM and stage IV sleep suppression. **Results:** A 21-year-old female with a history of major depressive disorder with anxious distress and medical history of juvenile idiopathic arthritis. She had difficulty initiating and maintaining sleep starting after increasing sertraline to 100 mg for better control of her depressive and anxiety symptoms. The sleep problems worsened further with increasing sertraline to 200 mg daily. Buspirone 10 mg twice a day was added for depression

augmentation. She had trials of trazodone (up to 150 mg nightly), hydroxyzine 50 mg nightly, quetiapine 50 mg nightly, and nortriptyline 20 mg nightly for her sleep symptoms but all failed before she was transferred to our clinic. She underwent polysomnography 6 months after developing the sleep problems showing (Wake time: 106.0 minutes, Stage I: 16.5 minutes [4.8%], Stage II: 231.0 minutes [67.2%], Stage III: 96.0 minutes [27.9%], Stage IV: 0.0 minutes [0.0%], and REM: 0.0 minutes [0.0%]). Switching from sertraline to venlafaxine resolved her sleep symptoms in less than 1 month without the need for sleep aids. **Conclusion:** Sertraline may suppress REM sleep and Stage IV of sleep. Further research is needed to determine the magnitude of the problem.

### No. 3

#### **A Meta-Analysis of the Effectiveness of Internet-Based Cognitive Behavior Therapy (Icbt) for Military and Veteran Populations**

*Poster Presenter: Jenny (Jing Wen) Liu, Ph.D.*

*Co-Authors: Natalie Ein, Anthony Nazarov, Callista Forchuk, J. Richardson*

#### **SUMMARY:**

**Background:** The pandemic has transformed mental healthcare, creating more demand for services that can be delivered remotely via the internet. Research in the areas of internet-delivered psychotherapies is still relatively novel. A particularly promising approach is the delivery of internet-based cognitive behavioural therapy (iCBT), which has been found to be effective in the treatment of PTSD, depression, and anxiety in the general population. Yet, given the differences in trauma exposure, symptoms presentation, treatment preferences, and response to treatment, it remains unclear whether the effectiveness of iCBT for military and Veterans populations would be comparable to those of the general populations. **Purpose:** The goal of the current meta-analysis is to substantiate and evaluate the evidence of effectiveness of iCBT for military and Veteran populations compared to control conditions (waitlist, treatment-as-usual, and active alternative interventions). The scope of the review will encompass internet/digital/tele/mobile adaptations of CBT treatments in military and Veteran

populations, explore the suitability, acceptability, and effectiveness of these treatments, and identify challenges and considerations for the adoption and delivery of iCBT treatments. **Methods:** Literature searches were conducted on June 4, 2021 using PsycINFO, Medline, Embase, and ProQuest Dissertations and Theses with no date restriction. The terms used were: internet, web, online, computer, computerized, apps, application, digital, CBT, cognitive behavioral therapy, cognitive therapy, behavioral therapy, iCBT, internet based cognitive behavioral therapy, veteran, military, combat. After screening against inclusion and exclusion criteria, a total of 21 articles with 147 samples were included in the meta-analysis. **Results:** Results from the pooled effects of intervention outcomes indicate that the iCBT interventions produced a statistically significant and meaningfully small effect (Hedges'  $g = 0.57$ , 95% CI = 0.48 to 0.66;  $z = 12.96$ ,  $p < .001$ ). Intervention outcomes were diverse, including symptoms reductions and behavioural modification changes. Examination of sub-categories of intervention outcomes were found to be heterogeneous, underscoring variabilities in reported outcomes. **Conclusions:** Results from the meta-analysis found iCBT to be more effective across diverse outcome measures compared to waitlist controls and treatment-as-usual conditions. The effect sizes were also comparable to the reported outcomes of prior meta-analyses of iCBT treatments conducted with non-military samples. Together, findings underscore the utility and effectiveness of iCBT interventions for military and Veteran populations. Implications for the use of iCBT and relative effects on categories of outcome measures are discussed in the context of clinical considerations, best practices, and barriers in design and delivery for military and Veteran populations.

### No. 4

#### **A Preliminary Study of Assessment-Based Adolescent Mental Health Outpatient Services to Identify Treatment Targets and Improve Treatment Outcomes**

*Poster Presenter: William Gibbs, M.D.*

*Lead Author: Jacqueline Liu*

*Co-Authors: Kara Bloomgarden, Eric Jon, Maryam Zarrabi*

**SUMMARY:**

**Background:** One of the protective factors impacting adolescent mental health and treatment outcomes is supportive parent-child interactions [1]. In order to improve the quality of adolescent outpatient psychiatric services, we established a tracking system to periodically assess treatment outcomes.

**Methods:** We employed the Health of the Nation Outcome Scales Child and Adolescent (HoNOSCA) to evaluate several clinical factors which include patient symptoms, functional impairments, and risky behaviors as well as parental understanding of the patient's illness and usage of available services. The outpatient clinical cohorts were naturalistically tracked at initial presentation and follow-up. Follow-up time ranges from 30 days up to 1.5 years from initial presentation [2]. Patients with intellectual disability (IQ < 80) were excluded from the study. Spearman's correlation and general linear regression were used in SPSS to analyze correlations and impact of factors on outcomes [3]. **Results:** 61 patients were assessed at baseline of which 49 were reassessed at follow up. At baseline, the child and parent total HoNOSCA scores were mildly correlated,  $\beta = 0.29$ ,  $p = 0.022$ , 95% CI (0.18, 2.25). Child risky behaviors sub-score, which included self-injurious behavior, suicidal ideation or behavior, and substance abuse, was similarly related to parent function score, which included parental understanding and management of the child's mental health issues,  $\beta = 0.26$ ,  $p = 0.042$ , 95% CI (0.01, 0.74). Child daily function sub-score, which included school attendance, peer relationships, self-care, academic performance, and family life and relationships, showed a stronger correlation with parental function score,  $\beta = 0.37$ ,  $p = 0.003$ , 95% CI (0.28, 1.29). Follow-up data were analyzed to assess the impact of parental function change, child and parent engagement, and treatment duration on child patient treatment outcomes. Of these, changes in parental function showed a moderate effect in change of total child outcome, Spearman's  $\rho = 0.45$ ,  $p = .001$ . **Conclusion:** The outcome of clinical treatment and management for adolescents with mental illness should be assessed periodically with the goal to improve treatment efficiency [4]. Our preliminary data suggest that educating parents on their children's mental health and management may improve patient treatment outcomes, and can be an

effective treatment target [5]. The power of our preliminary study is limited by the small sample size to assess other potential treatment targets, such as child and parent treatment engagement. Future longitudinal measurement-based quality care will enhance our ability to identify individualized treatment targets for our adolescent outpatient service. This study was supported by the Department of Psychiatry and Behavioral Health, Staten Island University Hospital, Northwell Health.

**No. 5****Addressing an Epidemic Through Engagement: Utilization of a Community Asset Map to Discuss Solutions for Opioid Problems in Minority Communities**

*Poster Presenter: Charles Bay*

*Lead Author: Jasmine Chardai Thompson, M.A.*

*Co-Author: Richard Steven Schottenfeld, M.D.*

**SUMMARY:**

**Background:** The opioid crisis is affecting the nation's capital with rapidly increasing overdose rates in predominantly economically disadvantaged, minority communities. In particular, D.C. Wards 7 and 8, are associated with the highest rates of drug overdoses. Medication-assisted treatments (MAT) for opioid use disorders (OUD) are available, however the impact of MAT's effectiveness is challenged by low utilization rates and poor treatment retention. Preliminary community engagement findings demonstrate that stigma, fear of legal action, institutional mistrust, and lack of knowledge about MAT limit community engagement and worsen OUD disparities. **Methods:** A six-member Community Advisory Board was formed to assist with effective engagement of Ward 7 and 8 residents in OUD treatment and recovery. This Board is part of a multi-stage community-based participatory research process focused on providing feasible and appropriate evidence-based interventions via settings that that resonate with the community needs and comfort. The Board recommended an engagement approach that provided information about the strengths of the community, as a first step toward encouraging participation and creating solutions. A digital map was created, which identified assets located within

Wards 7 and 8. These assets were trusted entities with potential to influence discussions about addiction treatment and recovery. Assets were grouped into the following domains: Health & Healthcare, Political & Government, Community Based Organizations, Education, Faith-Based Organizations, Sports & Recreation, Businesses, Other. **Results:** Phase 1 provided 143 assets across 8 categories. **Conclusion:** Tracking assets within Wards 7 and 8 has shifted the initial community engagement process from a “deficit” model (i.e., emphasizing community needs) to an “asset” model (i.e., emphasizing community strengths). A vital component to the community-based process, this map was contributory to project's second stage of needs assessment, which included identifying additional stakeholders and developing language and interview guides for discussing opioid and other drug addictions with the community. The asset map will also be used to plan future engagement activities such as mobile crisis units, pulpit announcements at churches, flyers, and more.

#### **No. 6**

##### **Adverse Effects of High Dose Melatonin on Psychiatric Disorders**

*Poster Presenter: Mahwish Adnan*

*Lead Author: Kaushal Shah*

*Co-Authors: Fatima Motiwala, M.D., Abhishek Reddy, M.D.*

##### **SUMMARY:**

Melatonin (MLT) plays a vital role in initiating and maintaining the sleep-wake cycle[1]. It is a hormone produced primarily from the pineal gland and frequently used as a sleeping aid for insomnias. The endogenous production of MLT typically decreases with age. The MLT is readily available over the counter (OTC) and not strictly regulated by the United States Food and Drug Administration (FDA). Since it falls under dietary supplements, effective monitoring of MLT's dosage and toxicity is lacking. We report a case of a 70-year-old Caucasian female complaining of depressive symptoms due to a higher MLT dose intake. This case report highlights a rare and unique instance of MLT-related psychiatric adverse effects and possible toxicity[3]. It also

emphasizes the importance of the safety and risk management of MLT.

#### **No. 7**

##### **Approach to Screening for Postpartum Depression (PPD) for the Pediatric Resident: Brief Supportive Interventions and Therapeutic Techniques**

*Poster Presenter: Ida Ahmadizadeh, M.D.*

*Co-Authors: Clare Swanson, Alyson Gorun*

##### **SUMMARY:**

Introduction: Pediatricians interact with new mothers several times prior to their only postpartum appointment with an obstetrician at 6 weeks. This creates a tremendous opportunity for increased PPD screening and brief supportive interventions in the immediate postpartum period. Both the United States Preventative Service Task Force and the American Academy of Pediatrics recommend routine screening for PPD during well-child visits using a validated screening questionnaire. Pediatric residents at Weill-Cornell expressed feeling deskilled in approaching mothers who screened positive for PPD. Our objective was to provide psychoeducation to pediatric residents on the topics of screening and brief supportive interventions for mothers who screen positive for PPD and to assess outcomes. Methods: We created and administered a 10-item survey to pediatric residents which queried comfort levels in administering the Edinburgh Postnatal Depression Scale (EPDS) and subsequent discussion on PPD if relevant. We created and presented an interactive workshop on the topics of psychoeducation on PPD, screening for PPD, and therapeutic techniques. A follow-up survey was administered directly following the workshop to assess its effectiveness. Results: In the pre-intervention survey, 26% felt “uncomfortable” engaging in discussion about PPD, 53% “generally comfortable” and 20% “confident.” In the post-intervention survey, 7% felt “uncomfortable,” but 100% felt either “generally comfortable” or “confident” engaging in discussion about PPD with mothers. The main barrier identified was time constraints. Conclusions: Our brief psychoeducational intervention bolstered self-assuredness in pediatric residents who felt uncomfortable approaching mothers who screened

positive for PPD. Since pediatrics is a main clinical setting for PPD screening, psychoeducation on screening and on brief supportive interventions should be formalized and foundational within the pediatric residency educational curriculum.

#### **No. 8**

### **Assessment of Bidirectional Relationships Between Leisure Sedentary Behaviors and Neuropsychiatric Disorders: A Two-Sample Mendelian Randomisation**

*Poster Presenter: Qian He*

#### **SUMMARY:**

**Abstract Background** Increasing evidence shows that sedentary behaviours are associated with neuropsychiatric disorders (NPDs) and thus may be a modifiable factor to target for the prevention of NPDs. However, the causality and direction of this association are not clear; sedentary behaviours may increase or decrease the risk of NPDs, and/or NPDs may increase or decrease engagement in sedentary behaviours. **Methods** This two-sample Mendelian randomisation (MR) study used independent genetic variants associated with sedentary behaviours (n = 408,815), Alzheimer's disease (AD; n = 63,926), schizophrenia (SCZ; n = 105,318), and major depressive disorders (MDD; n = 500,199), which were obtained from the largest non-overlapping genome-wide association studies, as genetic instruments. The MR estimates from each genetic instrument were combined in an inverse variance-weighted meta-analysis, with various methods (e.g., weighted median, MR-Egger, MR-pleiotropy residual sum and outlier) and multiple sensitivities used to assess horizontal pleiotropy and remove outliers. **Results** The MR evidence and linkage disequilibrium score regression revealed a consistent relationship between television watching and an increased risk of MDD (odds ratio [OR], 1.13 for MDD per one standard deviation (SD) increase in mean television-watching time; 95% CI, 1.06–1.20; P =  $6.80 \times 10^{-5}$ ) and a consistent relationship between computer use and a decreased risk of AD (OR, 0.52 for AD per one SD increase in mean computer-use time; 95% CI, 0.32–0.84; P = 0.0082.) In the reverse direction, MR showed a causal relationship between SCZ and driving ( $\beta$ , -0.016; 95% CI, -0.027?–?-0.004; P =

0.0083). **Conclusion** Using genetic instruments identified from large-scale genome-wide association studies, we found robust evidence for a protective relationship between computer use and the risk of AD, and for a causal relationship between television watching and the risk of MDD. In reverse analyses, we found an opposite causal relationship between SCZ and driving time. These findings emphasise the importance of distinguishing between different domains of sedentary behaviours in epidemiologic studies of NPDs.

#### **No. 9**

### **Associations Between the Masculinity Cultural Dimension and Psychopathology in Adolescents Admitted to an Inpatient Psychiatric Hospital**

*Poster Presenter: Jessa L. Westheimer*

*Co-Author: Katrina A. Rufino*

#### **SUMMARY:**

The Hofstede model defines a society's culture in six dimensions: Power Distance, Uncertainty Avoidance, Individualism, Long-Term Orientation, Indulgence, and Masculinity (1). The Masculinity dimension (MAS) describes how much a society values *ego enhancement*. A Masculine society prefers competition and aggression; conversely, a Feminine society prefers cooperation and modesty (1-2). Previous studies have shown that cultural dimensions are not only descriptive of a society but can be used to describe individual well-being. In fact, how an individual endorses culture is linked to psychopathology (3-7). However, how the MAS dimension relates to mental health is still unclear. The current study examines MAS endorsement as it relates to psychopathology. This study examined 331 adolescents admitted to an inpatient psychiatric hospital (M=14.95, SD=1.53, 65.3% female). The MAS dimension was assessed via a subscale of select Youth Self Report items (YSR; 8), administered at admission. MAS items (YSR #7, 32, 37, 49, 98, and 109) were coded to reflect traits of aggression and egotism, such that a high MAS score represents endorsement of more masculine traits. The GAD-7, PHQ-A, DERS-SF, PSQI, and ESS were administered at admission and discharge to assess anxiety, depression, emotion regulation, sleep disturbance, and daytime sleepiness, respectively (9-13). Results



of Pearson correlations revealed significant positive relationships between the MAS construct and anxiety ( $r=.13$ ,  $p=.022$ ), depression ( $r=.13$ ,  $p=.019$ ), emotion dysregulation total score ( $r=.30$ ,  $p<.001$ ), sleep disturbance ( $r=.11$ ,  $p=.042$ ), and daytime sleepiness ( $r=.21$ ,  $p<.001$ ), suggesting that adolescents who endorsed more MAS traits, also endorsed more psychopathology. Examination of the subscales of the DERS revealed significant positive correlations for each subscale [Limited access to emotional strategies ( $r=.22$ ,  $p<.001$ ), Nonacceptance of emotional responses ( $r=.15$ ,  $p=.006$ ), Impulse control difficulties ( $r=.33$ ,  $p<.001$ ), Difficulty engaging in goal directed behavior ( $r=.22$ ,  $p<.001$ ), Lack of emotional awareness ( $r=.15$ ,  $p=.008$ ), and Lack of emotional clarity ( $r=.18$ ,  $p=.001$ )]. These results suggest that adolescents who endorsed more MAS traits also endorsed more difficulty with all facets of emotion dysregulation. There was no correlation between endorsement of MAS traits and sex ( $r=.08$ ,  $p=.126$ ) which suggests the MAS dimension does not significantly correlate with biological sex. This study defined a novel construct for the cultural dimension of Masculinity in adolescents and showed that its endorsement correlates to increased anxiety, depression, emotion dysregulation, and sleep problems. Future research should validate these data with specific Masculinity/Femininity scales, such as the Bem Sex Role Inventory (14). Consideration should also be made for renaming the construct (e.g., Ego vs Relationship Enhancement) as our initial findings do not demonstrate a relationship to biological sex.

#### **No. 10**

##### **Barriers and Facilitators of Professionalism in Undergraduate Medicine: A Mixed Methods Systematic Review**

*Poster Presenter: Sucheta Tiwari, M.D.*

*Co-Authors: Nagina Khan, Ph.D., Subodh Dave, Wolfgang Gilliar, D.O.*

#### **SUMMARY:**

**Background** Medical professionalism has been conceptualised as the “values, behaviours and relationships that underpin the trust the public has in doctors” and as an “individual’s alignment with society’s needs”(1,2). It encompasses a strong

societal role (3). In psychiatry, where social determinants of mental health are central to the biopsychosocial clinical approach, and where professionals frequently have coercive powers such as involuntary detention, professionalism or its absence can shape clinician behaviour and health outcomes of vulnerable individuals. An early emphasis on professionalism in medical education can create future clinicians with a greater social and ethical consciousness and appreciation for social determinants of mental health. However, the integration of teaching professionalism in undergraduate medical education (UME) varies. Evidence suggests that medical education should be guided by learner needs to provide unique insights into interventions, and the many contexts in which the learners are taught (4,5). **Methods** The phenomena of interest in this review are the understanding and experiences of learners who are taught professionalism in undergraduate medical education. Both quantitative and qualitative studies are included in the review. PubMed (Medline), Embase, Scopus, PsycInfo, and ERIC have been searched for studies published in English from 2010 to 2020. Both quantitative and qualitative studies are being screened and critically appraised for methodological quality. A convergent integrated approach to synthesis will be used. Both types of data will be extracted using customized tables for that focus on understanding and experience of learners in professionalism. Data will be extracted from the included studies and where possible, quantitative data will be qualitized and research findings will be presented in narrative form. **Results** Preliminary screening highlighted that medical schools could engage human virtues in medical practice through emphasis on teaching higher values, integrity, respect for patients, and altruism. Context-driven learning is related to developing insight of the patients’ context whilst balancing external pressures of healthcare. The highly efficient approaches with reflective influence were demonstrated through role modelling, mentoring simulation, patient involvement, hidden curriculum, reflective practice, real environments, and use of information technology. We aim to complete the analysis and present the final results in May 2022. **Conclusions** Preliminary findings from the literature point to introducing the professionalism related

constructs early on in UME to impact learners' understanding. This would ensure that students are appropriately prepared for professional practice with patients, and are better prepared for complex social aspects of psychiatric practice.

#### **No. 11**

##### **Barriers to Identifying and Treating Learning Disabilities in School-Aged Children: A Qualitative Study**

*Poster Presenter: Lauren Stone, A.B.*

*Co-Authors: Laelia Benoit, M.D., Ph.D., Janet Hafler, Ed.D., Andres Martin, M.D., M.P.H.*

#### **SUMMARY:**

**Background:** Nearly 8% of children have a learning disability, yet recent data show that not even 5% are formally diagnosed and receive services. Delayed diagnosis not only deprives children of the opportunity for remediation but also may portend enhanced emotional vulnerability. We aimed to assess barriers to detecting learning disabilities in school-aged children by front-line pediatric clinicians and teachers. **Methods:** We conducted a qualitative study of semi-structured individual interviews with 40 professionals: 10 child mental health clinicians, 10 pediatricians, and 20 teachers. Clinicians represented private and academic settings, and educators represented public, private, and charter school settings. Half of the professionals had expertise in the recognition, assessment, and remediation of learning disabilities; the other half were generalists without specific training. We made a deliberate effort to ensure diversity with respect to age, gender, race/ethnicity, and geographic location. We analyzed transcripts using a constructivist grounded theory approach. **Results:** Seventeen participants (43%) reported having family members with learning disabilities, 2 (5%) were diagnosed themselves, and 7 (18%) suspected learning disabilities in their families or themselves. We identified four main themes reflecting barriers to identification: (1) professional knowledge gaps; (2) differing perceptions of professional responsibility; (3) variation in individual screening strategies; and (4) under-engagement of primary caregivers in identifying learning disabilities. **Conclusion:** We capitalize on the experience of front-line

professionals to identify barriers to formally diagnose children struggling with learning disabilities. Improved training on screening and identification for pediatricians, teachers, and other child-facing professionals could help in the earlier detection and remediation of learning disabilities. This study was supported by the James G. Hirsch Endowed Medical Student Research Fellowship and Yale School of Medicine Fellowship for Medical Student Research, and the Riva Ariella Ritvo Endowment at the Child Study Center, Yale School of Medicine.

#### **No. 12**

##### **Benefits of rTMS in Patients Suffering With MDD on Maximum Dosing of Pharmacotherapies Without Significant Relief of MDD Symptoms**

*Poster Presenter: Brian D. Gindoff*

*Co-Author: Shahan Sibtain, M.D.*

#### **SUMMARY:**

Major Depressive Disorder (MDD) is arguably one of the most, if not the most prevalent mental health disorder worldwide, with millions of people across all ages and all backgrounds receiving treatment through talk and biologic therapies. Specifically, the use of various antidepressant medications and polypharmacy increase the risk of side effects in patients undergoing conventional treatment for MDD and often leads to noncompliance and treatment relapse. Common side effects include nausea and vomiting, headache, drowsiness, and sexual dysfunction amongst others. This often leads to patient noncompliance and a serious impediment in the treatment process. But are these the only options for effective and safe treatment? A recent resurgence and interest in alternative therapies using the human body's own electrophysiology has sparked new debate over the efficacy and indications for therapies such as repetitive transcranial magnetic stimulation (rTMS) to treat MDD and other psychiatric disorders. rTMS is a non-invasive procedure where nerve cells in the brain are stimulated using magnetic fields and have shown success in treating MDD when other therapeutic methods did not work. rTMS does not involve deep-brain stimulation, holds a lower seizure risk, and does not require patients to undergo general

anesthesia, making it a safer and efficient alternative to ECT and other electrotherapies involving surgical implants. However, while current studies and research affirm the successful use of rTMS to treat MDD, our proposal aims to show the benefits of rTMS in reducing the amount of medication patients need to take, therefore decreasing side effect profiles and encouraging compliance with treatment. We herein present a research proposal to demonstrate the continued benefits of rTMS to treat MDD and its efficacy in reducing side effect profiles in patients on maximum dosage regimens of antidepressant medications to treat MDD.

#### No. 13

##### **Bouncing Back From Interactions With the Police: The Role of Resilience**

*Poster Presenter: Ericka M. Wheeler, M.Phil.*

*Co-Authors: Simon Kung, M.D., Lydia P. Wheeler, A.B., Eric P. Grewal*

##### **SUMMARY:**

**Background:** The increasing number of high-profile killings by police have had a significant effect on the psychological wellbeing of communities throughout the US. Resilience, defined as the ability to adapt to stressful situations, has application in interactions with police. **Methods:** The objectives of this study were to determine participants' experience of the police and investigate its association with resilience through an online survey. The survey was initially administered via email to local high school students. It was later forwarded via social media, email and text to recruit further participants, including middle school students and adults. Mann-Whitney's tests were used to test the hypothesis that higher resilience scores, perceived ability to de-escalate a situation with an officer, knowledge of one's constitutional rights, older age, male gender, and non-minority race correlate with positive experience of the police. **Results:** This analysis included 263 participants. We found that negative experience of the police was associated with lower levels of resilience, poorer perception of ability to de-escalate interactions with the police, and decreased perceived knowledge of constitutional rights when compared to those with positive prior experience with the police and no emotional distress associated

with the police. Youth and racial minorities reported more negative experience of the police along with lower scores in each category of resilience and protective factors. **Conclusion:** These findings suggest the potential of a rights-based, resilience-focused curriculum as a mechanism for intervention among youth to improve their future experience with police interactions.

#### No. 14

##### **Bruxism Due to Anxiety or Venlafaxine? A Case Report**

*Poster Presenter: Mahwish Adnan*

*Co-Authors: Fatima Motiwala, M.D., Kaushal Shah, Shailesh Jain, M.D.*

##### **SUMMARY:**

**Introduction:** Bruxism is an oral habit involving involuntary rhythmic or spasmodic non-functional gnashing, grinding, or clenching of teeth different from the mandible's chewing movements[1]. There are different types of bruxism and can have many etiologies, which include anxiety. Bruxism has also been known as one of the psychotropic medications' side effects like Serotonin Nor-epinephrine reuptake inhibitors (SNRI's). **Case Presentation:** We present a case of a 59-year-old Hispanic female who presented with bruxism. Differentials included anxiety or induced by the use of Venlafaxine. Bruxism responded very well with the use of Buspirone. **Discussion:** In our case, bruxism could have two to three possible causes, including inadequately treated anxiety[2], Venlafaxine induced[3], or a combination of both. Our patient responded to a low dose of Buspirone, which is consistent with prior case reports and literature. Buspirone is an anti-anxiety medication that could help bruxism either directly or by treating anxiety.

#### No. 15

##### **Burnout Syndrome in Resident Physicians During the COVID-19 Pandemic**

*Poster Presenter: Latife Salame Khouri, M.D.*

##### **SUMMARY:**

Background: Burnout in health care workers (HCW) is a public health problem. This syndrome can lead

to increased suicide risk; which has had a negative impact on the quality of care in health systems. Burnout occurs in physicians of all ages. The pandemics cause an increase in the workload in hospitals, so that they have been related to a high prevalence of burnout in HCW. Aim of the study: To determine the prevalence of burnout in resident physicians, in Mexico, during the COVID-19 pandemic; and the factors related to it. Material and methods: A multicenter, observational, cross-sectional, descriptive study was carried out. A self-administered survey was sent electronically to residents of 20 hospitals, in Mexico, from June to July 2020. We performed a univariate logistic regression to evaluate the correlation of the different risk factors and consequences of burnout with the presence of the outcome. Results: A total of 204 answered surveys were obtained. Most were internal medicine residents (46.57%). At the time of answering the poll, 67.49% suffered from burnout. The variables significantly related to burnout were: feeling supported by professors (OR = 0.54, p = 0.04), feeling supported by the university (OR = 0.52, p = 0.03), resting hours (OR = 0.76, p = 0.005), having at least one infected partner (OR = 4.4, p = 0.000), suffering an assault for being a doctor (OR = 3.7, p = 0.005) and feeling worried about their financial situation (OR = 1.9, p = 0.034). It was determined that the effects related to suffering burnout were: changes in food quality (OR = 1.56, p = 0.02), doubting their abilities as a doctor (OR = 2.77, p = 0.00), thinking about giving up residency (OR = 2.35, p = 0.01), and regretting having studied medicine (OR = 1.95, p = 0.03). Conclusions: During the first wave of the COVID-19 pandemic in Mexico, the prevalence of burnout in resident physicians was higher than the one reported in other countries. Studies like ours are extremely important to identify the prevalence of burnout during a pandemic and the variables associated with this syndrome. To recognize the risk factors and protective factors of burnout allows us to work on them, in order to prevent this syndrome and its effects on medical residents, during future health contingencies.

#### No. 16

#### **Can Balint Groups Reduce Burnout and Increase Empathy in Community Psychiatry Caseworkers?**

*Poster Presenter: Aderonke Oyetunji*

*Co-Authors: Jared Bruce, Stephen Jarvis*

#### **SUMMARY:**

**Background:** Burnout has been studied extensively among medical personnel, but less so among mental health providers. In psychiatric caseworkers, those who spend the most time with the sickest patients, there can be a sense of futility and thus high rates of burnout. Annual turnover of psychiatric caseworkers at an academically oriented community mental health center in the Kansas City metro area for fiscal year 2020 was 19%. Balint groups “are a structured group process designed to address burnout by providing feedback concerning troublesome patient encounters and offering providers an opportunity to reflect upon their style of relating to patients to gain a deeper understanding of patients and their needs<sup>1</sup>”. The purpose of this project was to examine the feasibility, acceptability and initial efficacy of Balint groups for reducing burnout among psychiatric caseworkers **Methods:** The Balint group is expected to include bimonthly meetings for 11 months led by a psychiatrist. The intervention includes a case presentation for 5 to 10 minutes; the discussion that follows keeps the session at approximately 1 hour. An abbreviated Maslach burnout inventory (aMBI), Interpersonal Reactivity Index (IRI), Depression and Anxiety self-reported scales were used to collect relevant participation data at baseline, and will be used again at 5 and 11 months. A satisfaction survey will be used to gain information on the intervention’s acceptability, perceived efficacy, attendance rates and participant feedback/satisfaction at 5 months and 11 months. **Results:** A total of 16 participants were recruited. Three participants dropped out of the study. The remaining participants included 9 females and 4 males, who are all recovery psychiatric coaches/Community Support Specialists. Three participants have been coaches for over 15 years, 5 participants reported over 15 caseloads per week. On the aMBI at baseline, burnout was experienced by 2 participants on the Personal Accomplishment (PA) subscale, 3 participants on the Depersonalization subscale and 10 participants on the Emotional Exhaustion subscale (EE). One participant had burnout on all 3 subscales of the aMBI. The Interpersonal reactivity index (IRI) scale revealed empathy as a trait among participants

regardless of caseload or level of difficult interactions with clients. On average, participants scored 34 out of 35 on the Empathy Concern (EC) subscale and 24 out of 28 on the fantasy (F) and perspective taking (PT) subscales of the IRI scale. **Conclusion:** Recovery coaches within the community mental health center suffer burnout and emotional exhaustion, but on the average exhibit empathic traits. The implementation of Balint groups with survey results at 5 and 11 months will test the feasibility, acceptability, and preliminary efficacy of this intervention on reducing the emotional exhaustion of these caseworkers which could in turn reduce turnover and improve the quality of care.

#### **No. 17**

##### **Can Music Therapy in the Neonatal Intensive Care Unit Improve the Neurodevelopmental Outcome of Preterm Infants?**

*Poster Presenter: Nisa Mohammed*

*Co-Author: Stuti Parikh*

#### **SUMMARY:**

Preterm births are prevalent in families with limited access to healthcare and are associated with long-term neurodevelopmental delays. Additionally, preterm infants (PTI) who stay in the neonatal intensive care unit (NICU) are exposed to repeated stressors that alter the brain microstructure, especially in the temporal lobe. Music therapy (MT) has been shown to have neurologic benefits in PTI up to 24 months. In this literature review, PTI were exposed to MT from birth to discharge from the NICU. Short-term studies are those that followed PTI from 33 weeks gestational age to discharge from the NICU, while medium-term studies are those that followed PTI from birth to 24 months. One short-term study found that MT in PTI enhances neural activity of the temporal lobe, surmounting the effects of the NICU stressors on neurodevelopment. MT also enhances the neural activity of cortical regions associated with response to salient stimuli, sensory perception, motor functions, cognition, and memory in PTI. When PTI were exposed to the same music played at a faster tempo, there was an even greater connectivity between the regions associated with cognition and memory. No significant differences were found in socioemotional

processing. A medium-term study found MT improved thalamocortical processing and synchronization in PTI, indicating widespread development of brain networks. The study also found increased connectivity between primary auditory cortices, thalamus, prefrontal, and orbitofrontal brain regions, suggesting increased emotional processing and higher order cognition. However, PTI at 24 months showed no significant difference in language and cognition compared to the control group. Another medium-term study that used developmental scales demonstrated a significant difference in fear processing at 12 months and anger processing at 24 months. Interestingly, this study also showed no significant lasting effects of MT on language developmental scales. Additionally, this study did not show significant effects on cognitive and motor developmental scales despite what the short-term studies had found. MT is a potential non-invasive intervention to improve neurodevelopmental outcomes in PTI and to provide environmental enrichment in the NICU. Additionally, it can help reduce the healthcare costs related to neurodevelopmental delays. The studies above reveal that PTI exposed to MT in the NICU have positive short-term benefits on neurodevelopmental, cognitive, and socioemotional processing, and medium-term benefits on emotional processing. While studies with short-term and medium-term effects of MT on PTI show promising benefits, more research is needed on the long-term outcomes beyond 24 months. Further research can also focus on effects of longer exposure of MT to affirm the enhancement of MT on socioemotional processing.

#### **No. 18**

##### **Caregiving and Mental Health in Midlife Low-Income and Minority Women in North Philadelphia: A Qualitative Study**

*Poster Presenter: Lauren Dorothea D'Andrea*

#### **SUMMARY:**

**Background:** Caregiving roles have both positive and negative impacts on mental health. Women disproportionately serve as caregivers. The responsibility of caregiving may be exaggerated among financially disadvantaged individuals who

may have additional stressors and not be able to afford assistance for the care of their loved ones. Midlife low-income and minority women who are caregivers have been understudied regarding their mental health and specific challenges. **Objective:** The purpose of this study is to explore women's attitudes towards caregiving and the association between caregiving responsibilities and mental health. **Methods:** Semi-structured interviews were conducted with 50 women ages 35-60 from a larger, longitudinal community-based study in North Philadelphia, which contains a primarily low-income and minority population. The interviews were conducted, transcribed, and coded to identify themes. The Generalized Anxiety Disorder Assessment (GAD-7), Patient Health Questionnaire-9 (PHQ-9), and Perceived Stress Scale (PSS) were administered to all participants. **Results:** Of the 50 women interviewed, 52% identified as caregivers. Of these, 69% care for children, 46% care for adults, and 46% care for seniors aged 50 and older. When asked about stress associated with caregiving responsibilities, 31% reported a high stress level. Those with low stress were more likely to have minimal to mild anxiety (mean GAD-7 score of 5.7) while those with high stress were more likely to have moderate to severe anxiety (mean GAD-7 score of 13.3, Fisher's Exact Test,  $p=0.020$ ). A similar pattern was seen with depression, where women who reported a low stress level from caregiving had minimal depressive symptoms (mean PHQ-9 score of 4.4) and those with high stress had moderate to severe depression (mean PHQ-9 score of 16.0, Wilcoxon-Mann-Whitney,  $p=0.001$ ). In discussions about mental health, one participant stated, "So, as far as, you know, letting the mental health, well, letting those concerns...come out? I can't do that. I can't afford to do that because I have people who depend on me." **Conclusions:** In this exploratory study, approximately half of midlife women in the low income, predominantly minority, North Philadelphia community identify as caregivers. Women caregivers with higher levels of stress had high anxiety and depression scores. Future studies are needed to explore the relationship between caregiving, stress, and mental health, especially in low-income populations who may experience a higher caregiving burden.

## No. 19

### Case of Oculogyric Crisis in a 46-Year-Old Female With Psychosis Who Received Low Dose Risperidone

Poster Presenter: Matthew Robert Kelly, M.D.

Co-Author: Ashish Sharma

#### SUMMARY:

**INTRODUCTION:** Oculogyric crisis (OGC) is an uncommon but well-documented adverse effect associated with first and second generation antipsychotics with an estimated incidence of 1.8%.<sup>1</sup> This condition can cause significant distress to patients and may interfere with future treatment adherence.<sup>1,2</sup> The current literature is limited to case reports and small case series describing the clinical course and risk factors for OGC.<sup>1-4</sup> We present a case of OGC in a patient treated with low dose risperidone. **CASE DESCRIPTION:** A 46-year-old Caucasian female with schizoaffective disorder and prior use of cocaine, methamphetamine and illicit opioids was brought to the ED by police for acute psychosis and disorganized behavior. She was initially prescribed haloperidol 5 mg IM and diphenhydramine 50 mg IM followed by chlorpromazine 50 mg IM once for severe agitation in the medical ED. Upon transfer to the Psychiatric Emergency Service (PES) she became aggressive toward staff prompting repeat administration of haloperidol 5 mg IM and benztropine 1 mg IM followed by chlorpromazine 50 mg IM once that evening. The patient remained severely agitated despite escalating haloperidol dosages followed by a trial of olanzapine 20 mg PO daily. Eventually she was switched to risperidone 1 mg PO BID on hospital day 11, and soon after receiving her first dose, was found to have a persistent upward gaze and increased agitation. She received benztropine 1 mg IM once, and her symptoms resolved within several minutes. Risperidone was discontinued and benztropine 1 mg PO BID was continued for OGC prophylaxis. Chlorpromazine was restarted and titrated to 100 mg PO TID before the patient was transferred to an outside facility for further management. **DISCUSSION:** This case highlights several risk factors for OGC and clinical considerations when prescribing antipsychotics. First, this patient was exposed to multiple neuroleptic agents which were titrated rapidly,

increasing her risk of developing an acute dystonic reaction. Notably, she did have a history of recent cocaine use which may have also heightened her risk.<sup>2</sup> Second, this patient was prescribed a relatively low dose of risperidone. While typical antipsychotics are more commonly associated with EPS, it is important to recognize that these side effects can occur even at low dosages of atypical antipsychotics. Finally, this case illustrates the importance of prompt recognition and treatment of OGC and other acute dystonic reactions. Anticholinergics are considered first line intervention for OGC, but when these agents are contraindicated, benzodiazepines may be considered. Amantadine is also referenced in the literature as a reasonable alternative, particularly for patients with underlying cognitive impairment in whom the use of anticholinergics may be ill advised.<sup>2</sup> When prescribing antipsychotics, patients ought to be educated on the risk for OGC and other acute dystonic reactions with appropriate access to reversal agents.<sup>1-4</sup>

#### **No. 20**

##### **Case Report for Chatbots' Clinical Applications to Improve Mental Health in Vulnerable Populations**

*Poster Presenter: Sammi Wong*

*Co-Author: Lan Chi Vo*

#### **SUMMARY:**

**Background:** This case report will report on recent studies that highlight how conversational agents (CA), or Chatbots, have the potential to improve mental health by combating healthcare inequities and stigma, encouraging disclosure from participants, and serving as companions during the coronavirus (COVID-19) pandemic. CAs' technology currently ranges from a short message service-based testing platform to virtual avatars who chat with participants. With this wide range of complex forms, CAs have the potential to provide more access to mental health resources. **Results:** By promoting self-advocacy for members of vulnerable populations, CAs can provide accessible healthcare by increasing access to resources such as mental health treatment. Simon et al. reported that combining motivational interviewing and cognitive-based therapy (CBT) increased smoking cessation in a sample of adolescent youth of low socioeconomic status [1].

Similarly, a study examining an experimental group (n=34) receiving a CBT text-based CA program, named Woebot, to a control group (n=36) given a self-help electronic book, reported significantly reduced depressive symptoms (p=0.01) in the experimental CA group [2]. Therefore, CAs may prove successful in treating youth who find online tools more feasible and approachable. The use of virtual human-based CAs can also encourage disclosure of more stigmatized information by being perceived as less judgmental in comparison to their human counterparts. Lucas et al. found that military service members who believed they were interacting with a computer rather than a human operator reported lower fear of self-disclosure, displayed more sadness, and were rated by observers as more willing to disclose posttraumatic stress disorder symptoms [3]. Meanwhile, the pandemic has shown that empathetic CAs combat the adverse effects of social exclusion. Ishii et al. demonstrated that a virtual CA was as effective as a COVID-19 companion because it uses natural language processing (NLP) and nonverbal facial expressions to give users (n=19) the feeling that they are being empathized [4]. Thus, these agents can promote virtual companionship that mirrors natural conversations and provide emotional support. **Conclusion:** CAs may serve as clinical tools to predict, detect, and determine treatment solutions for mental health conditions. These agents' NLP allow them to be potentially powerful therapeutic agents because they can read and understand spoken or written text in the same way that humans do. This poster will highlight various research studies that show CAs can be a tool to address mental health access in a new era of telepsychiatry and digital psychiatry.

#### **No. 21**

##### **Catonia and ECT in Adolescents: A Case Study of Anti-N-Methyl-D-Aspartate (NMDA) Receptor Encephalitis**

*Poster Presenter: Paloma Lucia Reinoso, M.D.*

*Co-Authors: Eva Levy, Marianna Ashurova*

#### **SUMMARY:**

**Background:** Anti-N-methyl-D-aspartate (anti-NMDA) receptor encephalitis can present with complex neuropsychiatric symptoms including catonia. The

most common cause of autoimmune catatonia is anti-NMDA receptor encephalitis, with studies reporting that approximately 42% of patients with anti-NMDA receptor encephalitis present with catatonia. **Case:** The patient was a 15-year old male with no prior medical or psychiatric history, who presented to the emergency department with acute change in mental status and first-episode seizure activity. Due to clinical suspicion for autoimmune encephalitis, the patient was initially treated with methylprednisolone and plasmapheresis with ultimate confirmation of anti-NMDA receptor encephalitis through cerebrospinal fluid (CSF). During his hospitalization, the patient became agitated and disinhibited, and was treated with antipsychotics, with only partial effect. His mental status continued to deteriorate, developing rigidity, negativism, echopraxia, autonomic instability, mutism, and waxy flexibility. Catatonia was diagnosed and treated with high doses of lorazepam. The severity of catatonia progressed, and electroconvulsive therapy (ECT) was indicated. The patient's Bush-Francis Catatonia Rating Scale improved from 28 to 0, as well as significant improvement in Clock-Drawing Test. After twelve acute treatments, the patient followed up with maintenance outpatient ECT twice weekly and was able to transition to monthly ECT. **Discussion:** ECT is known to be the most effective treatment for catatonia regardless of underlying etiology. While there are limited studies specifically describing management of catatonia in anti-NMDA receptor encephalitis, this case describes the management of catatonia with ECT after limited response to benzodiazepines and immunomodulatory therapy. Anti-NMDA receptor encephalitis should be considered in adolescents with presentations of bizarre behavior, agitation, catatonia, disinhibition, and other psychotic symptoms in patients with no prior psychiatric history. **Conclusion:** Although the primary treatment for catatonia associated with anti-NMDA receptor encephalitis is immunomodulatory therapy with benzodiazepines, ECT has been shown to be an effective and safe adjuvant treatment that is especially useful for management of catatonia in adolescents.

## No. 22

### Cell-Type Specific Alterations in Cannabinoid Receptor 1 in Patients With Schizophrenia

Poster Presenter: Shinn-Yi Chou, M.D.

#### SUMMARY:

**Background:** Alterations in cannabinoid receptor 1 (CB1) are implicated in schizophrenia. However, previous CB1 receptor ligand binding and immunoreactivity studies showed discrepant results in the prefrontal cortex of schizophrenia. These studies utilized antibodies that preferentially target CB1 at inhibitory boutons, and the exclusion of CB1 measurement in excitatory boutons may underlie the discordant findings. CB1 participates in both depolarization-induced suppression of inhibition and excitation, and understanding cell-type specific CB1 alterations in schizophrenia may increase our insight into its influences on excitatory-inhibitory balance disruptions within the pathology. Here, we investigate CB1 distribution in both inhibitory and excitatory boutons in schizophrenia using quantitative fluorescent microscopy. **Methods:** Postmortem tissues containing the dorsolateral prefrontal cortex (DLPFC) from 10 pairs of subjects with schizophrenia and nonpsychiatric comparisons were used. These subject pairs, matched for sex, age, and postmortem interval, were previously found to demonstrate reciprocal alterations between CB1 ligand binding and immunoreactivity study results. Sections were labeled with antibodies for CB1 (validated to target both excitatory and inhibitory boutons), vGlut1 (labeling intracortical excitatory boutons), and vGat (labeling intracortical inhibitory boutons). Fluorescent intensities of CB1 within vGlut1- and vGat- positive boutons were analyzed across all cortical layers using quantitative fluorescence microscopy. **Results:** CB1 co-expression with both vGlut1 and vGat were visualized in axons and boutons across all cortical layers. CB1 fluorescent intensity was lower in excitatory boutons compared to inhibitory boutons and exhibited distinct patterns within each cortical layer. **Conclusions:** Previous studies examining CB1 alterations in postmortem cortex of subjects with schizophrenia utilized antibodies preferentially targeting CB1 at inhibitory boutons. Using a CB1 antibody that targets both excitatory and inhibitory boutons, we demonstrated distinct cell-type specific



distributions of CB1 in the DLPFC of subjects with schizophrenia and nonpsychiatric comparisons. This suggests a possible mechanism by which CB1 dysregulation alters excitatory-inhibitory balance within schizophrenia. Expanding upon these findings, we plan to evaluate cell-type specific CB1 synaptic proteomics in schizophrenia as a potential contributor to the functional disturbances seen in this disorder.

#### No. 23

##### **Characteristics Associated With the Risk of Death by Suicide After Psychiatric Hospitalization by the Unified Health System in Brazil (2002–2015)**

*Poster Presenter: Camila Guimaraes, M.D., M.Sc.  
Co-Authors: Mariangela Cherchiglia, M.D., Ph.D.,  
Hugo Rocha, M.Sc., Sonia Braga, Ph.D., Ana Paula Melo, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Patients with psychiatric disorders are considered to be at increased risk for suicide compared to the general population and the risk is substantially higher after discharge from psychiatric hospitalization. Efforts have been made to identify factors related to the increased risk of suicide in this population. This study aimed to investigate sociodemographic and clinical characteristics in general and stratified by sex associated with the risk of death by suicide within 365 days after hospital discharge in patients admitted to psychiatric hospitalization in hospitals linked to the Unified Health System (SUS). When conducting sex-stratified analyses and investigate among other characteristics residence status (rural and urban areas) and opioid use disorders separately and not as part of substance use disorders this study expanded the knowledge of aspects still unclear in the literature. **Methods:** Non-concurrent prospective cohort study using secondary data from adult patients admitted to psychiatric hospitalization in hospitals linked to the SUS from 2002 to 2014 in Brazil. The patients were characterized by sociodemographic and clinical variables. Adjusted hazard ratios (AHRs) of death by suicide within 365 days after hospital discharge were estimated by Cox proportional hazards regression models in general and stratified by sex. **Results:** We selected a total of 1,228,784 adult patients admitted

to psychiatric hospitalization in hospitals linked to the SUS of which 3,201 died by suicide within 365 days after hospital discharge. We found an increased risk of suicide for the following variables: male gender, adults aged 18 to 29 years, living in South region of Brazil, living in rural and intermediary counties. In relation to psychiatric diagnosis, patients with depressive disorders (AHR, 3.87; 95% CI, 3.41-4.38) had the highest risk for suicide after hospital discharge with stronger association among men compared with women. The second highest risk was obtained for opioid use disorders (AHR, 2.71; 95% CI, 2.00-3.67), with a particularly strong association among women compared with men. Compared with patients who had only one psychiatric hospitalization, patients with 2 or more psychiatric hospitalizations had an increased risk of dying by suicide within 365 days after hospital discharge. **Conclusions:** Patients with mental disorders are at increased risk of death by suicide after hospital discharge. Patients previously admitted to psychiatric hospitalization must have access to mental health services immediately and for a long-term after discharge. Sociodemographic characteristics should be taken into account when planning the discharge. In addition to supporting public prevention policies the knowledge of the characteristics associated with the increased risk of suicide after hospital discharge has implications for clinical decisions related to discharge and post-discharge follow-up.

#### No. 24

##### **Characteristics of Elderly Patients Receiving Buprenorphine Medication Assisted Treatment for Opioid Use Disorder**

*Poster Presenter: Carly Twarog, M.D.  
Co-Authors: Ann Manzardo, Gurpreet Guliani, Roopa Sethi*

#### **SUMMARY:**

**Background.** Recent reports have indicated that the population treated and referred for medication assisted treatment of opioid use disorder (OUD) is aging. Age is an important factor impacting medication safety, efficacy and tolerability; thus, there is a need to understand these parameters for MAT across the age spectrum particularly among the

elderly. Further, it is important to understand any other changes in patient demographics that may influence patient care. **Methods.** A retrospective chart review was carried out on patient records from the University of Kansas Health System Addiction Treatment Center (ATC). Demographic characteristics, treatment course and outcomes were evaluated for patients aged 55 and older receiving buprenorphine for OUD. **Results.** A total N=50 patients (N=28 male; N=22 females) with a mean age=64 yrs; mean age of OUD diagnosis=48 yrs; and mean duration of use=19 yrs were identified. The mean BPN induction dose was 10mg and maximum induction dose was 22 mg. The frequency of BPN treatment failure was 6% (N=3) with 1 month relapse rates of 13% (N=6) and N=2 (4%) lost to follow-up. The frequency of reported cravings and withdrawal symptoms decreased from 82% (N=37) and 85% (N=40, respectively) at baseline to 14% (N=6) and 12% (N=5, respectively) at one year. This patient population reported high rates of pain at baseline (N=44, 90%) which decreased to 57% (N=24) at one year. **Conclusion.** BPN showed high rates of compliance, tolerability and efficacy for the treatment of OUD craving and withdrawal symptoms in elderly patients. The patient demographic showed an older age of diagnosis than typically reported and high rates of pain which was not addressed by MAT consistent with a changing demographic profile of late-onset OUD related to pain therapy.

## No. 25

### **Characterizing the Impact of Clinical Exposure to Patients With Opioid Use Disorder on Perceptions of Stigma and Patient Care in Medical Students**

*Poster Presenter: Mohammed Moumen*

#### **SUMMARY:**

**Problem:** As opioid use disorder (OUD) has grown as a public health crisis, undergraduate medical education (UME) has incorporated opioid use into its curricula. However, the overarching literature acknowledges that residents still feel unprepared to treat OUD, and stigma remains a significant roadblock to patients in seeking and receiving effective care. Therefore, UME has considerable work to develop, implement, and study OUD

curriculum best practices. **Intervention:** This study sought to characterize medical students' experiences with patients with OUD, understand the features that make a patient encounter memorable, explore factors that influence future practice, and describe the influence on stigma toward patients with OUD. A qualitative study was conducted consisting of a survey of 4<sup>th</sup>-year medical students (M4s) at Wake Forest School of Medicine (WFSOM) in 2019 and 2020, followed by individual interviews. The goal of the survey was to gain a broad understanding of the encounters students had with opioid use disorder. This was used to derive the interview questions. The goal of the interviews was to gain a deeper understanding of the impact of these encounters on future practice and stigma related to OUD. **Context:** At WFSOM, all M4s complete a Transition to Residency (TTR) course at the end of fourth year clinical rotations and prior to graduation. In 2019 and 2020, all students enrolled in the TTR course completed the DEA-X Waiver training which is required to administer, dispense, and prescribe buprenorphine. This presented an opportunity to study students' understandings and perceptions on treating OUD. **Impact:** Students who participated were able to reflect on how their clinical experiences affected their personal view of OUD. Students reported that a single, influential clinical encounter has the potential to substantially influence medical students' approach to patients with OUD, including both clinical management and attitudes. Encounters with the greatest impact were those that were emotionally charged, increased knowledge of OUD, and fostered empathy and perspective-taking. Areas for improvement in the opioid curriculum were identified, including specific rotations which had the most opportunity for meaningful experiences. **Lessons Learned:** More intentional OUD education can better prepare medical students to care for their future patients. Medical educators should maximize student's exposure to OUD and encourage them to reflect on their preconceived notions. This can be done by enhancing OUD curricula in specific rotations including Emergency Medicine, Psychiatry, and Family Medicine; as well as facilitating opportunities for students to engage closely with patients with OUD.

## No. 26

### **Child and Adolescent Psychiatry Pipeline Program: Growing an Inclusive Workforce**

*Poster Presenter: Desiree Nicolette Shapiro, M.D.*

*Co-Authors: Raphael Cuomo, Anahi Ibarra, Georgia Kovacs*

#### **SUMMARY:**

There is a global shortage of child and adolescent psychiatrists (CAPs) with a need to grow a pipeline of physicians who better reflect and understand their communities. During the 2020-2021 academic year, a novel program to increase exposure to CAP was offered to UC San Diego medical students and psychiatry residents. The program aimed to 1) increase awareness about pathways into CAP 2) increase CAP knowledge 3) encourage a community action or scholarly project 4) offer sponsorship and mentorship 5) engage in mental health literacy efforts 6) increase leadership skills and 7) foster community and group cohesion. Nine medical students as well as 4 psychiatry residents participated in the program. Eleven of the 13 participants of the year-long program completed a post-program survey in June 2021. A sample of participants, 3 of the residents and 4 of the medical students, engaged in a focus group at the conclusion of the program. All 11 of the survey respondents reported being either "very satisfied or satisfied" with the program. All 11 respondents reported that their attitudes and perceptions of CAP had changed. A sample comment included: "My attitudes have become even more positive, mostly because I continued to learn about the different roles that a CAP psychiatrist can take in their professional lives." Ten of the 11 respondents reported that they are more likely to pursue CAP as a career as a result of this program. All respondents reported that because of the program they 1) have a more positive view of CAP as a field, 2) are more likely to be a mental health advocate for future patients, 3) are more likely to stand up against health-related stigma, and 4) see themselves as more culturally empathic. Regarding time asked of the participants, 3 thought the program asked too much of their time, 6 reported an appropriate amount of time, and 2 thought the amount of time asked of them was small. From focus group findings, residents had a harder time attending events and engaging in

projects. Interestingly, 8 of the respondents reported that the program greatly improved their wellbeing and three reported that the program somewhat improved their wellbeing. Notable areas for improvement included adjustment of time expected of participants and offering additional opportunities for direct clinical exposure and conversation. Further study is needed to explore the expansion and replicability of the program components and curriculum as well as the longitudinal impact. There are several limitations to this report; this was a one-time experience involving a small group and findings might not be generalizable to other groups or schools, and long-term outcomes and career trajectories of participants are not yet known. Choosing a medical specialty to pursue is a complex process that may begin even before matriculation into medical school. Programs such as this one show encouraging signs that exposure to mental health in medicine and the CAP pipeline can grow.

## No. 27

### **Childhood Abuse: Interplay With Family History of Mental Illnesses and Psychiatric Comorbidities in Patients With Treatment-Resistant Mood Disorders**

*Poster Presenter: Yang Cai*

*Co-Authors: Rongyi Sun, Junwei Zhang, Keming Gao, M.D., Ph.D.*

#### **SUMMARY:**

**Background:** Intergenerational transmission of psychiatric disorders is well documented. Children who grow up in a family affected by mental illnesses are at greater risk of developing them. Childhood trauma is a known risk factor for development of psychiatric disorders (1,2). A recent review found that verbal abuse, in particular, is a strong risk factor for vulnerability to and severity of mood disorders (3). However, no study has explored the relationship between different abuse subtypes and psychiatric comorbidities in treatment-resistant mood disorder. This study aims to assess the relationship between family history of mental illness, childhood abuse subtypes, and psychiatric comorbidities in a group of patients with treatment-resistant depression who received electroconvulsive therapy (ECT). **Methods:** This retrospective study used the initial evaluation

records of patients who received outpatient ECT at University Hospitals Cleveland Medical Center from 2010 to 2020. All patients underwent a systematic clinical diagnostic interview according to DSM-IV or DSM-5 criteria. Historical variables including childhood abuse (verbal, physical, or sexual) were collected with direct questions. Data from adults  $\geq$  18 years old with major depression (bipolar or unipolar) were extracted. Patients with a history of abuse were compared with those without on the number of mental illnesses in the family and number of current psychiatric comorbidities of themselves at the evaluation as a group and subgroups. **Results:** The prevalence of physical, verbal, and sexual abuse was 18.61% (43/231), 22.57% (51/226), and 20.08% (48/239), respectively. Patients who were abused as a child, regardless of subtype, identified a significantly higher number of mental illnesses in their family ( $p = 0.003$ ), and were themselves diagnosed with a higher number of psychiatric comorbidities ( $p = 0.003$ ). In subtype analyses, verbal abuse was also associated with a greater number of family mental illnesses ( $p < 0.001$ ) and psychiatric comorbidities ( $p = 0.01$ ). However, such associations were not observed for physical or sexual abuse. **Conclusion:** The associations between a history of abuse, especially verbal, and an increased number of mental illnesses in the family as well as an increased number of psychiatric comorbidities in patients themselves suggest that parental mental illnesses might contribute to maladaptive parent-child abusive interactions, and subsequently increased the risk of multiple psychiatric disorders in the offspring. Although these results need to be confirmed with prospective studies, verbal abuse as a modifiable social determinant of mental health should be identified and intervened early, especially in parents with mental illness, to minimize its impact on next generations.

## No. 28

### **Comparative Efficacy and Safety of Mood Stabilizers for Aggressive and Impulsive Behavior in Patients With BPD: A Systematic Review and Meta-Analysis**

*Poster Presenter: Ernesto José Castañeda Bermúdez  
Co-Authors: Sandra Rojo Garza, Javier Alberto Garza Cervantes*

## **SUMMARY:**

**Background:** The extensive symptomatic dimensions of borderline personality disorder (BPD) encompasses, poor impulse control, aggressive behavior, generalized pattern of instability in interpersonal relationships, and fear of abandonment, this pattern begins in early adulthood and continue in later life. Patients with BPD benefit from psychotherapeutic treatment, they may be also offered pharmacological treatment aiming towards specific symptoms. The selection of pharmacotherapy is made without clear bases about which drug to use. Pharmacotherapy applications for specific symptoms in BPD have been described for atypical antipsychotics and mood stabilizers showing efficacy in treating: affective dysregulation, aggressive behavior, and impulsivity. The main interest in analyzing mood stabilizers as treatment is because of the known adverse events associated with antipsychotics in short and long-term treatment that can reduce adherence for patients or represent a potential harm. **Objective:** In this study we analyzed the efficacy and security profiles of mood stabilizers in treatment of aggressive and impulsive behavior in patients with BPD to determine which one(s) are good options. **Methods:** We conducted a comprehensive search to find eligible articles in PubMed, Ovid MEDLINE, EMBASE, PsycINFO, Web of Science, and Scopus from 1972 to April 2019 using keywords to search for clinical trials evaluating the efficacy and safety of mood stabilizers treating aggressiveness and impulsivity in BPD patients; we included clinical trials treating aggressive and impulsive behaviors of patients diagnosed with BPD (according to DSM-III, and DSM-IV criteria) with mood stabilizers (Lithium, Lamotrigine, Topiramate, Divalproex, and Carbamazepine). **Results:** A total of 3010 articles were found, and 298 were revised in full text and finally 13 clinical trials were included. Of those 13 trials were 3 for Lamotrigine, 3 for Topiramate, 3 for Divalproex, 3 for Carbamazepine, and 1 for Lithium, all reported reduction in aggressive or impulsive behavior with an adequate over all safety profile. We meta-analyzed data from 5 studies to determine the effect size and the statistical significance, the preliminary results of the meta-analysis reported an effect size (SMD) of -1.2151 (IC 95% -2.4195; -0.0106) in reducing the hostility item of the SCL-90. **Conclusions:** Mood

stabilizers (Lithium, Lamotrigine, Topiramate, Divalproex, and Carbamazepine) demonstrated efficacy in reducing aggressive and impulsive behaviors in patients with BPD with clinical trials showing good tolerability and safety profile. The preliminary results of meta-analyzed data for Topiramate reported a statistically significant reduction of hostility symptoms in BPD patients (hostility item of the SCL-90) with an effect size of -1.21 (IC 95% -2.4195; -0.0106).

#### No. 29

##### **Connecting the Worlds of Psychiatry and Hepatology: The Developing Correlation Between Dementia and NAFLD**

*Poster Presenter: Kerstina H. Boctor, M.D.*

*Co-Author: Shabbir Amanullah, M.D., D.P.M.*

##### **SUMMARY:**

**Background & Aims:** Non-alcoholic steatohepatitis (NAFLD), also known as biopsy proven steatohepatitis (NASH) is characterized by hepatic steatosis in over 5% of the parenchyma in the absence of excessive alcohol consumption and may progress to cirrhosis, and hepatic carcinoma. There has been a growing body of research suggesting that both NAFLD and mental disorders share pathophysiological pathways resulting in anatomical changes in brain matter; and even more specifically a correlation between NAFLD and the progression of Alzheimer's Disease (AD). Given the growing Canadian AD rate of 14.3% and 20% of NAFLD we aimed to identify the comorbid incidence and prevalence of AD and NAFLD in a Canadian population, characteristic neurocognitive findings, structural brain changes, and current screening protocols. **Methods:** Utilizing PubMed, and the University of Saskatchewan USearch engines the following MeSH terms were searched specifically in journal articles: [NAFLD] and/or [NASH] & [DEMENTIA] and/or [ALZHEIMER'S DISEASE], and/or [cognitive impairment] spanning the last 5 years. **Results:** Searching journal articles dating from 2016 to 2021, 36,650 hits were identified, of which 28,376 were peer-reviewed journal articles. Emphasis was placed on RCT's, systematic reviews and meta-analyses which narrowed results to 276 English articles. To date, no study has identified incidence or prevalence of co-occurring NAFLD and AD in a

Canadian-based population. Findings point to hepatic fat as being a superior marker for neurodegenerative disease in comparison to BMI, visceral, or pancreatic fat. There was no apparent correlation between liver function tests (LFT) in early NAFLD to cognitive function and varying evidence to suggest LFT correlation in advanced NAFLD to cognition. Imaging studies highlight impact of advanced NAFLD on smaller cerebral volume, cognition and increase risk of Dementia. The presence of NAFLD was not associated with cognitive function; however, advanced fibrosis was correlated to poorer performance on abstraction, similarities and trail-making B. Whereas hepatic encephalopathy was more associated with deficits in verbal fluency. No consensus was available as to imaging or screening protocols. However, many studies utilized the Montreal Cognitive Assessment (MoCA) as the gold-standard screening tool in identifying cognitive impairment. **Conclusion:** There exists a large gap in identifying the co-impact of AD and NAFLD in a Canadian population. As well as comparative analysis of the various screening tools in identifying cognitive impairment and more specifically AD in patients with advanced NAFLD. With the difficulty of timely access to MRI/PET scans in many centres, future research may be geared at use of non-imaging tools in screening for early markers of AD in advanced NAFLD and ascertaining whether NAFLD may be a modifiable risk factor in the progression of AD.

#### No. 30

##### **Constant and Friendly Contacts With Clients Improves Confidence, Self-Esteem and Raises Beneficiary's Numbers**

*Poster Presenter: Adrian Octavian Abagiu*

##### **SUMMARY:**

**Background:** The social determinants of mental health are social and economic factors (such as socioeconomic status, education, neighbourhood, employment, social support networks, and health services) that influence people's mental health and are strongly associated with social inequalities, whereby the greater the social inequality, the higher the risk. Since 1999 the RAAA began the outreach programs for vulnerable population: HIV positive people (PLWH), gypsies=roma people (RR),

commercial sex workers (CSW), injecting drug users (IDU's), homeless persons (HL) and men having sex with men (MSM), offering complex harm reduction services. We began with psychosocial support, rights teaching, giving condoms, needle exchange programs, food and clothing, etc. After many years of service, we have reached more than 5000 individual contacts in 6 main towns from Romania and in 2007 we developed a partnership with the (NIIDMB) in Bucharest, opening the first "low threshold" methadone maintenance program in our capital, where more than 90% of the IDU's are. The outreach work is constantly fuelling the medical services, improving very efficiently the health of our clients, building confidence that there is hope in finding shelter and support in this world full of STIGMA. **Results:** In the last 5 years, despite the last 2 with the Covid 19 restrictions we still saw a steady growth in number of individuals reached by our harm reduction programs. So from 01.01.2017 to 31.09.2021 we reached 3758 IDU's (starting from 2636), 2258 gypsies (from 1519), 219 MSM (beginning with 33), 237 CSW's (starting from 212). We offered more than 1 million condoms, 4 million syringes, collected 3,4 million syringes. We increased the OMT slots from 300 to 450. In this almost five years retention to treatment at 1 year increased from 52% to 69%. We have vaccinated for VHB more than 950 clients; we helped to diagnose more than 250 TB cases and more than 100 HIV's. **Discussions:** Many of our clients have mental health issues due to, or that lead to substance use and dependence together to many other health consequences. Creating a friendly environment, showing compassion (not pity) greatly increased self-esteem and life quality among our patients.

### **No. 31**

#### **Coping With Crisis Curriculum: Development of an Introductory Curriculum About Grief, Death, and Dying for Clinical Year Medical Students**

*Poster Presenter: Erin Currey*

*Co-Authors: Ellie Lorenzana, Mary Fessler*

#### **SUMMARY:**

In formal medical education, the impact of witnessing death/dying/serious illness and experiencing grief on the formation of students'

professional identities are seldom discussed. A preliminary needs assessment on medical student grief showed a major gap in resources directed to medical students, as well as a lack of self-directed/self-paced interventions. With methods derived from Kern's Curriculum Development for Medical Education [Kern, 1998], we have developed an innovative curriculum to support learners. This curriculum is a self-directed workbook for clinical year medical students that sets expectations about the grieving process, explores common physical changes at the end of life, and introduces learners to scenarios commonly encountered in the clinical setting, including team debriefs and breaking bad news. This workbook also introduces students to reflective practices and other cognitive tools for coping with caring for the dying, in order to support students in developing both their bedside manner and their coping skills for processing difficult cases. This curriculum also provides asynchronous near-peer mentorship through stories of grief/death/dying submitted by senior medical students and illustrated for inclusion in the workbook. At this conference, we are excited to present examples from our novel, asynchronous near-peer mentorship model as well as discuss the process of our curricular development. This resource, developed by medical students for medical students, provides introductory knowledge about caring for dying patients and witnessing death. This workbook supports learners in the development of coping skills by increasing the emotional intelligence and the foundational wellness of learners. It is our contention that healthy learners, literate in grief and healing, may be able to provide even greater comfort to patients. We are currently piloting this project and measuring the efficacy of the program through qualitative interviews before and after the implementation of the program, as well as through the use of 2 validated tools (the Death Anxiety Scale-Extended [Templer, 2006] and the Mini Z Burnout Survey [Linzer, 2015]) administered to both groups before and after their participation.

### **No. 32**

#### **COVID-19 and Medical Education: Implications for Medical Student Wellness**

*Poster Presenter: Julia Lynne Versel, M.Sc.*

*Co-Authors: Emily Walsh, Patrick Mazza*

**SUMMARY:**

**Introduction and Hypotheses:** Several studies suggest the COVID-19 pandemic has had a deleterious impact on overall medical student wellness. The purpose of this study is to further understand the effects of the COVID-19 pandemic on medical students in their pre-clinical (M1 and M2) and clinical years (M3 and M4) and to assess unexplored variables that may have been affected to varying degrees due to the pandemic-related curricular changes. The hypothesis being tested in this study is that the wellness of students in the pre-clinical years of medical school has been affected by the COVID-19 pandemic to a greater degree than students in the clinical years of medical school. First and second year students were subject to more drastic pandemic-related curricular changes and saw their education transition to an exclusively virtual basis, whereas third and fourth students remained protected from the extremity of these curricular changes due to the need for continued in-person clinical training. **Method:** We conducted a cross-sectional survey of medical students enrolled in their first, second, third, and fourth years at Loyola University Chicago Stritch School of Medicine (Chicago, IL). The survey used a Likert scale to assess the subjective wellness of medical students during the COVID-19 pandemic, as well as their perception of the impact of pandemic-related curricular changes on their wellness. All responses were collected anonymously and voluntarily. **Results:** Of the students who completed the survey (n=140), M1 and M2 students experienced a higher frequency of negative mood states (anxiety, stress, sadness), and a lower level of social health (social support, class cohesion, work-life balance) with comparison to M3 and M4 students. The M1 and M2 classes also rated these wellness outcomes as more attributable to the pandemic-related curricular changes than M3 and M4 classes. All findings were statistically significant ( $p < .05$ ). **Conclusions:** The M1 and M2 medical school classes at Stritch School of Medicine experienced more deleterious wellness outcomes than the M3 and M4 classes during the COVID-19 pandemic. The pre-clinical students also believed that the drastic pandemic-related curricular changes, namely a shift toward exclusively virtual-based learning, were responsible for these wellness outcomes. In the

event of future societal changes that necessitate virtual medical education, more extensive efforts to foster inter- and intra-class engagement may promote improved wellness for medical students in their pre-clinical years.

**No. 33****COVID-19 Impact on PHQ-9 Depression Scores Among Adolescents**

*Poster Presenter: Tess Schultz*

*Co-Authors: Camry Kelly, Paul Dube, M.D., Sarah Brown, Ph.D.*

**SUMMARY:**

**Introduction:** Depression is a leading cause of illness among adolescent populations. The United States Preventive Services Task Force recommends screening for depression in 12–18-year-olds with the Patient Health Questionnaire-9 (PHQ-9) (3). Early data is showing a negative impact on mental health due to the ongoing COVID-19 pandemic (2). However, there remains a paucity of studies that use standardized measures to compare mental health among adolescents in the United States before and during the pandemic. The objective of this study was to compare cumulative trends in PHQ-9 scores from two pre-pandemic years and the first year of the pandemic. **Methods:** This study used a de-identified chart review of adolescents 12-18 years of age who were screened with PHQ-9s at a large Federally Qualified Health Center in Colorado between March 2018 and March 2021. The COVID-19 pandemic timeframe was defined pre- or during- with March 2020 as the beginning of the pandemic. Patients were sub-categorized by sex, race, sexual orientation, rural or non-rural setting, and insurance type as recorded in their chart. Data was analyzed through Generalized Linear Mixed Models with repeated measurements to address subsequent assessments of the same patient. **Results:** Four hundred twenty-four PHQ-9 records of 206 unique participants were included in the analysis. Among all individuals, the mean PHQ-9 score significantly decreased from 10.27 before COVID to 5.22 during COVID ( $p < 0.001$ ). Females scored higher than males in both pre (12.12) and during (6.9) pandemic time frames. All racial groups had decreases in PHQ-9 scores during COVID, however, white adolescents

had the highest pre-pandemic score and a larger decrease (6.27). In comparison, Latino adolescents had the smallest decrease of score within pandemic time (0.99). Patients in rural clinics had higher pre-COVID PHQ-9 scores (12.15) compared to patients in non-rural clinics (9.82), however, rural patients had a higher decrease in PHQ-9 scores than the non-rural group (5.99 and 4.87 respectively). Sexual orientation was not significantly associated while insurance type was variable. **Conclusion:** This study's data showed adolescent PHQ-9 scores decreased during the first year of the COVID-19 pandemic, indicative of a decreased rate of depression. Our results match a study from The Nationwide Children's Hospital in which researchers found during the initial phase of the pandemic (April-July 2020) the rate of positive screen dropped to 51.1% from 65.4% prior to the pandemic. However, this rate did begin to trend upward in August 2020 to 62.1% (1). Possible explanations include decreased academic and social pressures during social isolation, increased time spent with family, a pause of responsibilities, or other factors. Further investigation with expanded cohorts is needed to fully understand the factors that lead to these results.

#### **No. 34**

##### **Delusional Parasitosis After Starting Hemodialysis: A Case Report**

*Poster Presenter: Ashley Leto, M.D.*

*Co-Author: Sarah Kleinfeld, M.D.*

##### **SUMMARY:**

**Introduction:** Delusional parasitosis (DP), sometimes referred to as Ekbom syndrome, is a rare psychiatric condition characterized by a false conviction that one is infested with parasites. Patients often initially present to a dermatologist or primary care physician, and may bring samples of hair, lint, or skin for assessment.<sup>1</sup> DP is often treated with a second-generation antipsychotic, with the majority of evidence supporting use of risperidone, olanzapine, or aripiprazole. We present the case of a patient who developed DP after initiation of hemodialysis (HD). **Case Report:** A 61-year-old veteran with major depressive disorder and relevant medical history of end-stage renal disease (ESRD) on HD and blindness

presented to clinic for evaluation of tactile, visual, and auditory hallucinations. These specific symptoms began in 2019 after initiation of HD treatment, and he reported feeling "little creatures coming out of his body" that appeared as small snakes or worms. Prior to this, he had not experienced hallucinations of any kind. Basic labs were unremarkable, the patient was compliant with his dialysis schedule, and was not taking any known hallucinogenic medications. He reported poor sleep in the context of "plucking [bugs] off" at night, as well as depressed mood. Initially, he was prescribed risperidone 1mg QAM and 2mg QPM without resolution of symptoms. He was switched to quetiapine 25mg QAM and 50mg QPM, with symptomatic improvement at follow-up. Although he reported continued tactile and visual hallucinations, he felt a reduction in severity and noted that the bugs were "shrinking." Quetiapine was continued without adjustment, and a referral was made for psychotherapy services. **Discussion:** Patients undergoing HD or peritoneal dialysis (PD) may experience uremic pruritus over the course of their treatment.<sup>2</sup> However, severe intractable pruritus coupled with a belief of infestation as seen in our case is more consistent with DP. This patient's case in particular is complicated by depression, in which his hallucinations may represent psychotic features, as well as his visual impairment, as visual hallucinations in such patients may be a component of Charles Bonnet syndrome.<sup>3</sup> There are other isolated cases of DP developing after initiation of dialysis with similar presentations; interestingly, many of these cases are patients with cortical or other forms of blindness, who responded well to second-generation antipsychotics. **Conclusion:** The etiology of DP is not well understood, nor is its possible relationship with dialysis or blindness. Our case is one of a few cases of patients who experienced tactile hallucinations shortly after starting dialysis, but suggests that quetiapine is a second-generation antipsychotic to consider when treating a patient with DP. Additional trials directed at determining efficacy of individual second-generation antipsychotics in DP would be beneficial.



### No. 35

#### Detection of Social Isolation From Narrative Notes in Electronic Health Records Using Natural Language Processing

Poster Presenter: Braja Patra

Co-Authors: Priya Wickramaratne, Benjamin Glicksberg, Joanna Biernacka, Jyotishman Pathak

#### SUMMARY:

**Background:** Lack of social support or social isolation indicates individuals with no friends, family, or relatives whom they can count on when needed. Research has linked social isolation and loneliness to higher risks for physical and mental health illnesses, including cardiovascular diseases, obesity, a weakened immune system, depression, premature death and Alzheimer's disease<sup>1,2</sup>. Electronic health records (EHRs) are a valuable repository of longitudinal data of patient information and outcomes. Social isolation is often captured in EHRs as part of narrative text and manual abstraction of such data is time-consuming and labor intensive. Here, we propose an automated regular expression-based natural language processing (NLP) approach to extract social isolation from narrative notes and thereby identify patients experiencing social isolation. **Data:** In this study, we used clinical notes and International Classification of Diseases (ICD)-based billing codes from the outpatient EHR system (EPIC) in a New York City-based academic medical center. This corpus consisted of more than 55 million clinical notes documented between 2006 and 2020 from 332,259 patients who were prescribed antidepressant medication. **Method:** We extended the social isolation lexicon developed by Zhu et al.<sup>3</sup> by using manual chart review and word2vec NLP method. Final lexicon includes a total of 224 terms with detailed context words. Finally, a regular expression-based NLP (rNLP) system was developed using this lexicon to identify notes with social isolation. Once the NLP system was applied, a set of 300 notes identified by the NLP system for having social isolation context were randomly selected and tested its accuracy using a manual chart review. We also compared the results with social isolation information captured in structured ICD codes. **Results and Discussion:** We identified 329,713 notes from 41,789 unique patients (12.6%) with mentions of social isolation using rNLP system. From this

cohort, 27,492 patients (65.78%) were diagnosed with any mental health conditions at some point in the EHR. Major depressive disorder (ICD code 311), anxiety (300.00), tobacco use disorder (305.1), alcohol abuse (305.00), and bipolar disorder (296.80) were the top five diagnosed conditions for the patients. Manual chart review of 300 notes identified 278 notes (92.66%) aligned with social isolation context. Other notes (22) had either a negated term or were irrelevant to the context of social isolation. We identified 1,413 patients with ICD-9 (V62.4) and ICD-10 codes (Z60.2, Z60.4, Z60.9) related to social isolation, and our rNLP system was able to identify 850 patients (60.02%). Future work will include investigating records of the 563 patients who were not identified by our rNLP system.

**Conclusion:** This study developed a rNLP system to extract social isolation from the EHR. Future research can utilize a supervised classification approach to identify social isolation in clinical notes.

### No. 36

#### Discrimination and Stereotype Threat Are Negatively Associated With the Well-Being of Chinese in the U.S. During Covid-19 Pandemic

Poster Presenter: Xinyi Zhou

Co-Author: Shu (Ruth) Fu

#### SUMMARY:

**Background:** During the Covid-19 pandemic outbreak, Chinese in the U.S. have been experiencing the increased perceived stereotype threat and perceived discrimination. Research found that stereotype threat can lead to stress, anxiety, and depression (Blascovich, J et al., 2001; Brave Heart et al., 2011). The current study is aimed to investigate the impact of discrimination and perceived stereotype threat on the mental health of the Chinese in the U.S. during Covid-19 Pandemic. **Hypothesis:** We hypothesized that a higher level of perceived stereotype threat and perceived discrimination is related to a higher level of psychological distress. Sociocultural adaptation could not moderate these relationships. **Method:** The investigators selected 115 Chinese adults (=18 years old) from mainland China with a non-immigrant visa who have been living in the U.S. most of the time since the outbreak of the COVID-19 pandemic

(1/23/2020) and cumulatively have lived in the U.S. for more than a year. The participants were recruited from universities, Chinese community centers, churches, and social media. Pearson correlations and Process Macro (Hays, 2014) were used to analyze data. Measures: Perceived Stereotype Threat, Mutual Intercultural Relations In Plural Societies Questionnaire Perceived Discrimination (Berry, J. W., 2017); Mental Health Inventory (Veit and Ware, 1983); Revised Sociocultural Adaptation Scale (Wilson, J., 2013). Results: This analysis included 115 participants (mean age = 30, 71% female, 79% have bachelor's degree or higher). Perceived stereotype threat is positively associated with anxiety ( $r=.367$ ,  $p<.001$ ), depression ( $r=.239$ ,  $p<.001$ ), and negatively associated with positive emotions ( $r=-.227$ ,  $p=.015$ ). Similarly, perceived discrimination is positively associated with anxiety ( $r=.389$ ,  $p<.001$ ), depression ( $r=.267$ ,  $p=.004$ ), and negatively associated with positive emotions ( $r=-.368$ ,  $p<.001$ ). The moderation model with sociocultural adaptation as moderator is nonsignificant. People who have higher levels of sociocultural adaptation are not more likely to have lower levels of anxiety and depression or higher levels of positive emotions after experiencing perceived stereotype threat and discrimination. Discussions: This study indicated that perceived stereotype threat and discrimination significantly impacted the wellbeing of Chinese in the U.S. during the Covid-19 pandemic. To address this issue, increased social awareness towards racial justice and implementations of culturally adapted therapy on racial healing are warranted.

### **No. 37**

#### **Dissociative Amnesia in a Patient With Schizoaffective Disorder: Clinical Aspects and Diagnostic Challenges**

*Poster Presenter: Megan Kiolbasa*

*Co-Author: Jeffrey A. Metzner, M.D.*

#### **SUMMARY:**

*Introduction* Research shows that dissociative disorders are associated with psychotic disorders and linked to progressive delusions, hallucinatory behavior, and significant impairment in psychosocial functioning. However, the specific relationship

between dissociative amnesia and psychosis remains unclear, suggesting that this condition is underdiagnosed, especially in patients with chronic debilitating psychiatric conditions. *Case Description* We present the case of a 21-year-old male with a past psychiatric history of Schizoaffective Disorder who presented to the ED in August 2021 with sudden inability to remember any autobiographical information on a scale inconsistent with ordinary forgetfulness. Full medical workup was unremarkable aside from a UDS positive for THC. The patient was unable to recall any events leading up to his hospitalization and displayed evidence of la belle indifference. He denied all psychiatric symptoms and appeared to be neurologically intact and, aside from his amnesia, psychiatrically stable. He scored 18/30 on MOCA, and overall his performance on neurocognitive testing suggested intact memory with significant deficits in executive function and a low likelihood of malingering. Upon daily assessments, his semantic and procedural memories appeared to be intact but his episodic and autobiographical memories, spanning the entirety of his life, remained significantly impaired for the duration of the hospitalization [1]. Additionally, the patient did not demonstrate any psychosis or behavioral indicators of malingering. Police were unable to identify the patient via fingerprints. With his written consent, the hospital shared the patient's picture with local media and requested that anyone with information regarding his identity contact the hospital or police. On HD 8 he was positively identified. A chart review revealed that the patient had multiple psychiatric hospitalizations for psychosis, behavioral dysregulation, and violent behavior in the context of polysubstance abuse. He frequently displayed a pattern of decompensation, exacerbated by his unwillingness to cooperate with family. When informed of his identity, the patient initially did not recognize any of his biographical information. However, over the next two days his memory gradually improved. Upon formal evaluation, he demonstrated independence and safety with all ADLs, IADLs, and functional mobility. He refused all therapeutic interventions and was ultimately discharged AMA despite his inability to formulate an aftercare plan. Although his presentation is somewhat atypical and lacks an identifiable trauma, this patient's symptoms appear

to be consistent with dissociative amnesia [2]. In this context, we will discuss the occurrence of similar symptoms in patients with psychotic disorders and assess the possible influence of psychosocial stressors and involuntary psychiatric hospitalizations on dissociative symptoms [3] [4] [5].

### **No. 38**

#### **Effect of Intermittent Photic Stimulation on Electroencephalogram of Females With Premenstrual Dysphoric Disorder**

*Poster Presenter: Dinesh Sangroula, M.D.*

*Co-Author: Binu Shrestha*

#### **SUMMARY:**

**Introduction:** Premenstrual dysphoric disorder (PMDD) is characterized by depressed mood, self-deprecating thoughts, marked anxiety and tension, affective lability, anger and irritability, difficulties in concentration, lack of interest in activities, lethargy, a sense of being overwhelmed, and suicidal ideation occurring at late luteal phase of the menstrual cycle with impairment in occupational and social functioning. Electroencephalography (EEG), an electronic recording of an electrical activity of brain, is primarily used for clinical diagnosis of seizures, and other conventional cognitive neuroscience. PMDD has many psychological, emotional, and neurophysiological changes which could be reflected in EEG. We aimed to objectively compare the EEG findings in patients with PMDD during symptomatic versus asymptomatic phase. **Method:** The study was conducted in Clinical Neurophysiology Lab of Department of Basic and Clinical Physiology, BP Koirala Institute of Health Sciences, Dharan, Nepal. Screening with questionnaires followed by recording of anthropometric and cardiorespiratory variables and EEG recordings with 5, 10, 15, 20, 25, 30 Hz frequencies of intermittent photic stimulation were conducted in 30 subjects a week before menses or during the peak of symptoms and were repeated immediately after menses when subjects were asymptomatic. The data of EEG power spectra (primary outcome measure) were not normally distributed and hence subjected to log transformation and statistical analysis. Paired sample t-test was used for comparison of anthropometric variables, cardio-respiratory

variables, and EEG power spectra between the premenstrual and post-menstrual recordings. **Result:** 30 female subjects included in the study (age 18-30 years) were medical students with regular menstrual cycles and without any medical or psychiatric illness who met criteria for PMDD based on DSM-IV. The EEG power spectra before the beginning of menstruation or during the peak of symptoms when compared with post menstrual phase was a statistically significant ( $p < 0.05$ ) for increase in Beta activity over Fronto-tempo-parietal (F3, C3, T3, and P3) area of the left hemisphere. No statistically significant differences were observed in terms of anthropometric and cardiorespiratory variables between symptomatic and asymptomatic phase. **Conclusion:** Increased beta activity at the left hemisphere under intermittent photic stimulus before menses and during the peak of symptoms of PMDD is indicative of the presence of anxiety, stress, insomnia, and obsessive or negative thinking. If this finding of EEG changes in PMDD patients holds true in larger studies, EEG monitoring could be potentially used in future research studies such as drug efficacy and comparing treatment for PMDD. In clinical setting, EEG finding could be used to aid in diagnosis, and monitoring treatment response.

### **No. 39**

#### **Effectiveness of Alcoholism Treatments Through a Combination of Multiple Questionnaires on Patients With Alcohol Use Disorder**

*Poster Presenter: Shao-Cheng Wang*

*Lead Author: Chiao-Yun Chu*

*Co-Author: Chun Hung Lee*

#### **SUMMARY:**

**Background** Alcohol use disorder (AUD) is characterized by impaired ability to control alcohol consumption and the extent can be assessed by AUDIT questionnaire. Our study investigated the effectiveness of alcoholism treatments using several scales on the individuals with alcohol use disorder. **Methods** AUDIT questionnaire was used for 187 participants aged over 20 before and after the treatments and only 31 subjects with post-test were enrolled. Demographic information was collected, such as age, gender, educational level, and employment status. Screening tools such as BDI,

BSRS-5 and WHOQOL-BREF were used for evaluating the impact of alcoholism after treatments. Multiple linear regression analysis was conducted with the Statistical Software Stata version 12.0 (StataCorp LP, College Station, TX, USA). Statistical significance was considered as  $p < 0.05$  in all tests. **Results** Demographic data of patients divided by AUDIT scores are shown in **Table 1**. There were 28 (90.3%) males and 3 (9.7%) females, with the mean age of  $47.9 \pm 10.6$  years. Results showed that AUDIT and BSRS-5 scores significantly decreased after alcoholism treatments. The Brief Symptom Rating Scale (BSRS-5) is a mood thermometer used for mental health assessment, and the scores positively relates to AUDIT score (95% CI: 0.20 – 3.68) (**Table. 2**). **Conclusions and Discussion** Alcohol abuse often affects mental health condition and presents as a risk factor for suicidal behavior (Norström, et al. 2016; Darvishi, et al. 2015). Previous study suggested BSRS-5 scale is predictive for Taiwanese version of the WHOQOL-BREF which corresponds to life quality (Lu, et al. 2011). And measuring and monitoring quality of life throughout alcoholism assessment and treatment can serve as a valuable marker for treatment efficacy (Ugochukwu, et al. 2013). In our study, risk of alcohol dependence, depression and anxiety decreased after alcoholism treatment. Our findings also indicated BSRS-5 as a reliable tool for assessment of psychological symptoms and as life quality index for alcohol users. More samples are needed to better estimate the improvement of alcoholism and alcohol-related psychological status after treatment in Taiwan. **Funding** This research was funded by Ministry of Science and Technology (MOST), Taiwan, grant number 110-2314-B-695 - 002.

#### No. 40

##### **Efficacy and Safety of LY03005 in Major Depressive Disorder: A Multicenter, Randomized, Double-Blind, Phase 3 Trial**

*Poster Presenter: Hongyan Zhang*

##### **SUMMARY:**

**Background:** LY03005 is a potential serotonin-norepinephrine-dopamine triple reuptake inhibitor (SNDRI). In in vitro study, LY03005 showed IC50 values of 31.4 nM, 586.7 nM, and 733.2 nM for

serotonin, norepinephrine, and dopamine reuptake transporters; and in vivo studies revealed that parts of LY03005 were metabolized into desvenlafaxine. Previous phase II trial showed that LY03005 40, 80, and 160 mg per day significantly reduced the Hamilton Depression Scale (HAM-D17) total score in the treatment of major depressive disorder (MDD), safety profile and tolerability were good. To further confirm the efficacy and safety of LY03005 80 and 160 mg in the treatment of MDD, this phase III trial (NCT04853407) was conducted. **Methods:** This multicenter, randomized, double-blind, placebo-controlled phase III clinical trial included adult patients with MDD (18-65 years old, DSM-5-diagnosed depression, Montgomery-Asberg Depression Scale (MADRS) total score  $\geq 26$ , CGI-S score  $\geq 4$ ) from 12/2018 to 12/2020. Patients were randomly divided 1:1:1 into three groups (160, 80 mg LY03005 or placebo), for treatment of 8 weeks. The primary endpoint was the change of total MADRS score from baseline after 8 weeks of treatment. The secondary endpoints include MADRS response rate, MADRS remission rate, et al. In addition, adverse events were recorded. **Results:** A total of 558 patients were randomized in the study; 184 patients in each group entered the efficacy and safety analyses. The baseline characteristics of the three groups were comparable. After 8 weeks of treatment, the mean MADRS score of 160 mg, 80 mg, placebo ( $11.4 \pm 6.81$ ;  $11.6 \pm 7.58$ ;  $16.7 \pm 8.74$ ) had significant reduction from baseline ( $31.2 \pm 3.59$ ;  $31.6 \pm 3.94$ ;  $31.3 \pm 4.22$ ). The least squares method (LSM) difference (95%CI) changes of 160mg and 80mg from placebo was -5.06 (-6.75, -3.37) and -5.46 (-7.14, -3.77) (both  $P < 0.0001$ ). The MADRS response rate (Change from baseline of MADRS score  $\geq 50\%$ ; 73.9%, 79.9% vs. 42.4%; both  $P < 0.05$ ) and MADRS remission rate ( $\leq 10$  points; 40.2%, 42.4% vs. 23.9%; both  $P < 0.05$ ) were higher in the 160 and 80 mg groups compared with placebo. During treatment, the incidence of adverse events in the 160 mg, 80 mg, and placebo groups were 78.3%, 74.5%, and 67.9%, respectively. No serious adverse event related to study drug occurred. Treatment discontinuation due to adverse events occurred in 7.6%, 5.4%, and 3.8%, respectively. The most common adverse events in the three groups were nausea (26.09%, 21.20%, 10.87%), dizziness (10.3%, 13.0%, 7.1%) and dry mouth (10.3%, 8.7%, 7.1%).

There were no significant differences in Sexual Experience Scale (ASEX), changes of body weight, somnolence, and insomnia among the three groups. **Conclusion:** LY03005 160 and 80 mg are safe and effective for MDD and can comprehensively improve the depressive symptoms.

**No. 41**  
**Ejaculation as a Rare Side Effect of Electroconvulsive Therapy and Its Implication on Patients**

*Poster Presenter: Isaac Benmaman*  
*Co-Author: Brent R. Carr*

**SUMMARY:**

This case report describes a 52-year-old Caucasian male with a greater than 20-year history of Bipolar Type II disorder, with a previous MDE's response to ECT with sustained remission for 3 years, who was re-treated with another series of ECT after a recurrence of MDE accompanied by SI. Remission was again achieved, and the patient was transitioned into a successful 4–6-month Continuation ECT phase during which he and wife requested a private meeting to discuss their anxiety and distress secondary to the patient having spontaneous ejaculations during two prior ECT sessions. It is unknown if this occurred during the intraprocedural phase or within PACU. Both were apprehensive and embarrassed about the disclosure and concerned “something was wrong” with either the treatments or the patient. No reports were found in the literature reporting spontaneous ejaculation as a side effect of ECT. This may be due to there being no correlation, underreporting, or from the rarity of the event. There are robust effects on autonomic output that are generated by anesthesia medications and the subsequent ECT treatment itself wherein, sympathetic and parasympathetic outputs are often superimposed on one another. It is important to mention that during ECT, patients tend to produce a large surge of catecholamines and noradrenergic activity due to the sympathetic response. On past literature, there have been reports of patients having spontaneous ejaculations during a surge of adrenergic activity from panic attacks. Also there have been reports of spontaneous ejaculation with the use of atomoxetine, which is a noradrenalin

reuptake inhibitor. Large surges of noradrenergic activity and catecholamines may have potentially contributed to the events. The patient and his wife's discovery of his two ECT related spontaneous ejaculations while undergoing anesthesia and the immediate retrograde amnesia from ECT created distress. Here we offer possible mechanisms of action for this event, and, importantly, describe the critical nature of fostering rapport and trust such that the events are reported, affording patient reassurance to alleviate fears and possible premature termination of ECT.

**No. 42**  
**Elevated Risk of Depression in Patients With High Levels of Vitamin a (Retinol): A Real World Evidence Study**

*Poster Presenter: Drew Buoniconti*  
*Co-Authors: Jessamine Winer-Jones, Ph.D., Sierra Luciano*

**SUMMARY:**

**Background:** High levels of vitamin A (vit A), or retinol, have been associated with fatigue, mood swings, suicidal thoughts, mood affective disorders such as depression, and even psychosis in small cohorts. This study uses real-world evidence to explore a link between high levels of vit A and depression by assessing the risk of depression in adult patients with high levels of vit A compared to those with high levels of vitamins B-E (vit B-E) and those with vit A levels within the normal range. **Design/Methods:** A retrospective cohort study was performed using de-identified electronic medical records from over 58 million U.S. patients using the TriNetX Dataworks USA research network. LOINC codes for vitamin laboratory tests were used, and normal ranges of vitamin levels (vit A: 0.3-1.2 mg/L, vit B: 160-950 pg/mL, vit C: 0.4-2.0 mg/dL, vit D: 20-50 ng/mL, and vit E: 5.5-17 mcg/mL (tocopherols), 5-20 mcg/mL (alpha tocopherols), 0.7-4.9 mg/L (gamma tocopherols)) were defined. The index event was defined as the first elevated vitamin lab result or the first vit A lab in the normal range (among patients without high vit A), with an observation period of one year after the index event. The main outcome was the first instance of major depressive disorder (MDD), defined using ICD-10 codes F32,

MDD (single episode), and F33, MDD (recurrent). Risk ratios were calculated using TriNetX onboard analytics and propensity score matching was used to balance cohorts on common depression risks and demographic factors to adjust for confounders. Propensity scores were matched 1:1 using a nearest neighbor greedy matching algorithm with a caliper of 0.25 times the standard deviation. **Results:** Patients with high vit A levels outside of the normal range had a significantly higher risk of MDD as compared to patients with vit A levels within the normal range and patients with high levels of vit B-E. Patients with high vit A have a 1.265% higher risk of MDD than those with normal levels (N=9,073,  $p=0.0027$ ), a 1.964% higher risk than those with high vit B (N=8,340,  $p<0.0001$ ), a 3.639% higher risk than those with high vit C (N=1,381,  $p<0.0064$ ), a 3.64% higher risk than those with high vit D (N=8,233,  $p<0.0001$ ), and a 1.082% higher risk than those with high vit E (N=7,146,  $p<0.0307$ ). **Conclusions:** Compared to those with vit A levels within the normal range and high vit B-E levels, patients with high vit A have a significantly higher risk of major depressive disorder within a year of the vitamin excess measurement. This analysis supports a link between MDD and excessive vit A not present in other vit types that should be explored further. While low to normal levels of vit A seem to be safe, these findings suggest that patients may want to be wary of ingesting excess amounts to reduce the risk of inducing depression. **Disclosure:** The author was employed at TriNetX while this research was conducted.

**No. 43**  
**Epigenetic Markers in Peripheral Blood in Bipolar Patients With Suicide Attempts**

*Poster Presenter: Antoni Benabarre, M.D., Ph.D.*  
*Co-Authors: Marina Mitjans Niubo, Miriam Acosta, Bárbara Arias*

**SUMMARY:**

Suicidal behavior (SB) is a serious public health problem involving approximately one million annual deaths worldwide, with 90% of them being related to mental disorders such as bipolar or psychotic disorders (Plans et al., 2019). SB is determined by multiple factors emerging because of the interaction

of socio-demographic, clinical, neurocognitive, environmental, and genetic factors and new evidence points to an important role of epigenetic factors. The aim of the present study is to compare genome-wide methylation patterns at a peripheral level between bipolar disorder (BD) patients with and without suicide attempts (SA). BD patients (N=79) presenting =1 SA and no SA were categorized in the SA group (N=44; 75% females) and in the non-SA group (N=35; 65.7% females), respectively, by using the Columbia Suicide Severity Rating Scale (C-SSRS) (Al-Halabí et al., 2016; Posner et al., 2011). Genome-wide DNA methylation (DNAm) in peripheral blood was assessed using the InfiniumMethylationEPICBeadChip (Illumina). R program was used to process microarray data. Quality control was done using ChAMP (Tian et al., 2017). Normalization and batch correction were done using BMIQ and Combat, respectively. Blood-cell counts were calculated using refbase. Differentially methylated positions (DMPs) and regions (DMRs) between SAs and non-SAs were calculated using Limma and DMRcate, respectively (Peters et al., 2015; Ritchie et al., 2015). Blood cell counts, sex, smoking status (smoking score) (Bollepalli et al., 2019), methylation PCs (Barfield et al., 2014), and age were used as covariates. Benjamini-Hochberg multiple-testing correction was used to correct the false discovery rate (FDR) and a p-value of 0.05 was considered for significance. A total of 8 CpG sites ( $p\text{-value}<5.62E^{-7}$ ; FDR adjusted  $p\text{-value}<0.05$ ) and 1 DMR (FDR adjusted  $p\text{-value}=4.92E^{-16}$ ) were significantly differentially methylated between SAs and non-SAs. From all the DMPs differentially methylated between groups, three of them have been found to be mapped to genes: *LAMC1*, *MSX2*, and *FAM20A*. Lastly, the DMR observed in our sample was mapped to several genes: *VWA5B2*, *MIR1224*, and *ALG3*. From the genes mapped to DMPs, *LAMC1* has been previously associated with Alzheimer's disease (Palu & Liesi, 2002). The DMR observed in our sample mapped to *VWA5B2*, *MIR1224*, and *ALG3* genes, which are located close to rs1969253 that has been related to major depressive disorder, though results not reaching significance, (Major Depressive Disorder Working Group of the Psychiatric GWAS Consortium, 2013). All in all, our results show DNA methylation differences in peripheral blood between SAs and

non-SAs BD patients pointing to the importance of considering epigenetic markers when studying SB. These results should be replicated in larger samples and further studied for a better understanding of SB and ultimately help in suicide prevention and treatment. Funding FIS PI11/02006, PI16/01029, PI16/00998, PI17/01122 and 2017SGR1577.

#### No. 44

##### **Ethnic and Generational Differences in Self-Reported Eating Disorder Symptoms Among Asian Americans**

*Poster Presenter: Rachel Christine Conrad, M.D.*

##### **SUMMARY:**

**Background:** Culture and sociocultural factors strongly influence the onset of eating disorders (Gordon, 2016; Akoury et al., 2019). East Asian cultures place increasing levels of importance on body image (Zhang et al., 2018), and East and Southeast Asian Americans have lower rates of body satisfaction than South Asian and White Americans (Pishori, 2011). However, little is known about how these vary across generations so it's important to investigate the transgenerational and transethnic risk factors of eating disorder prevalence in Asian Americans. We examine the differences in eating disorder characteristics between first- and second-generation Asian Americans, and among them, differences between those reporting Indian and Chinese ethnicities. **Methods:** Asian Americans (n=131) were anonymously surveyed using the Eating Disorder Examination Questionnaire (EDE-Q). The EDE-Q measures 4 subscores of specific characteristics of eating disorders: Restraint, Eating Concern, Shape Concern, and Weight Concern. Surveys were distributed through a collaboration with the National Council of Asian Pacific Americans (NCAPA), across anonymous social media platforms such as LinkedIn and select Reddit Communities from June 27, 2021 to August 7, 2021. T-test analyses were performed on the collected data and tested against a  $p < .05$  level. **Results:** The analysis consisted of 131 responses, of which 76 (58.01%) were first-generation immigrants and 55 (41.98%) were second-generation, representing 15 ethnic groups, with 5 individuals (03.81%) who identified with more than one ethnicity. Only two ethnic

groups, Chinese and Indian, had more than 5 individuals that represented them. As such, ethnic differences were only drawn along ethnic lines between 41 Chinese respondents (31.29%) and 56 Indian respondents (42.74%). Those who belonged to more than one ethnicity were excluded from the ethnicity-based analysis. Across both first- and second-generation Asian Americans, concerns revolved more around Shape and Weight Concern than Restraint or Eating Concern. However, there was no significant difference between the overall prevalence of eating disorders, or any subscore, between first and second-generation Asian Americans. Even when separated ethnically, Chinese and Indian Americans have the same concerns around shape and weight. **Conclusions:** We did not find significant differences in self-reported eating disorder symptoms between first- and second-generation or between Chinese and Indian respondents suggesting that generation or ethnicity alone may not be risk factors of developing eating disorders in Asian Americans. Investigation into other risk factors and implications of persistent eating disorder cognitions, as well as further understanding of the process of assimilation of ideas around food and body image, among Asian Americans, is needed.

#### No. 45

##### **Evaluating the Netter School of Medicine Suicide Risk Assessment and Prevention Curriculum**

*Poster Presenter: Caroline Lapp, B.A.*

*Co-Author: Emily McCave, Ph.D.*

##### **SUMMARY:**

**Introduction:** Suicide is the tenth leading cause of death in the United States and suicide rates are rising. Physicians can successfully prevent patient suicide, but there is limited research on suicide-related medical education. This study assessed the beliefs of Frank H. Netter MD School of Medicine (SOM) students regarding the importance and effectiveness of the suicide risk assessment and prevention curriculum. **Methods:** Second-, third-, and fourth-year Netter SOM students (n=106) were surveyed regarding their confidence assessing and mitigating suicide risk, the timing and efficacy of educational experiences, and their opinions about

possible curricular improvements. Quantitative data was analyzed to compare median student confidence in multiple competencies, differences in confidence between class years, and student opinions about the efficacy of the curriculum. Qualitative analysis was performed by identifying common themes in students' comments. **Results:** Average median confidence across 14 suicide-related competencies was 4.3, 4.2, and 2.6 for fourth-, third-, and second-year students, respectfully (1= not at all confident, 5=very confident). Most students believe the medical school curriculum should include training on suicide assessment and prevention. Students desire suicide-specific training on interviewing (98%), lectures (88%), and role play with standardized patients (SPs) on risk assessment (87%) and safety planning (85%). Most students prefer suicide-specific training to begin before clinical rotations. Many students requested role-play scenarios involving SPs rather than peers because peer role-play could be triggering, unrealistic, and ineffective. Student suggestions for curricular adjustments included emphasis on early training, inclusion of interprofessional events, education on safety planning, and increased opportunities to practice these skills. **Conclusions:** Netter SOM students believe the medical school curriculum should include early suicide-specific training with increased opportunities to practice interviewing, safety planning, and role-playing with SPs.

#### **No. 46**

##### **Experiences, Perceptions, and Preferences for Mental Health Services Among Patients With Systemic Lupus Erythematosus: A Qualitative Study**

*Poster Presenter: Lauren Goldschen, M.D.*

*Co-Authors: Karen Costenbader, Hermioni Amonoo*

#### **SUMMARY:**

*Background:* Systemic lupus erythematosus (SLE) is a heterogeneous, life-threatening, multisystem autoimmune disorder characterized by variable and unpredictable disease flares. Consequently, affective and anxiety disorders are prominent among patients with SLE with prevalence rates higher in SLE cohorts than in the general population. Mental health symptoms among patients with SLE have been

associated with significant clinical outcomes. For example, symptoms of depression and anxiety have been shown to mediate cardiovascular outcomes, quality of life, illness perception, and medication adherence among SLE cohorts. Although psychological interventions implemented among patients with SLE can effectively mitigate symptoms of distress, evidence on patient perception and barriers to effective uptake of existing psychological interventions is limited. To address this gap, we used semi-structured qualitative interviews to explore patient experiences and perceptions of psychological interventions and resources to identify facilitators and barriers to accessing mental health care among patients with SLE. *Methods:* Adults diagnosed with SLE in the Brigham and Women's Hospital Lupus Center were identified to complete semi-structured qualitative interviews. A qualitative interview guide of open-ended questions was informed by literature review. Interviews covered several domains including: 1) impact of SLE on psychological wellbeing; 2) experiences with mental health services; and 3) perceptions and preferences for mental health services. Interviews, no longer than 60-minutes, were conducted via telephone and audio-recorded for transcription and data analysis using Dedoose software by two coders who resolved any discrepancies with the study team and in comparison of the raw data. *Results:* Anticipated maximum enrollment is 25 participants. As this study is ongoing, we anticipate patients will highlight the importance of addressing psychological symptoms as a critical element in their overall SLE treatment. We anticipate barriers to accessing mental health care will include stigma, treatment ambivalence, and difficulties navigating a complex healthcare system for mental health services. *Conclusion:* Data from this qualitative study will be essential for the development of empirical interventions that bolster psychological wellbeing in the SLE population.

#### **No. 47**

##### **Exploring Cultural Adaptations to a Teacher-Led, Task-Shifted Intervention for Child Mental and Behavioral Health in a Low-and-Middle Income Country**

*Poster Presenter: Christina Melissa Cruz, M.D., Ed.M.*

*Co-Authors: Juliana Vanderburg, Choden Dukpa, Michael Matergia*



**SUMMARY:**

**Background:** The mental health needs of children in low-and-middle income countries (LMICs) often go unmet due to a lack of mental health professionals available to provide services. Task-shifting, an approach in which professionals train community members to implement specialized interventions, may provide a solution. In child mental health, task-shifting the provision of care to teachers is a promising method of increasing service access. Translating evidence-based mental health interventions across cultural settings, however, may require adaptations that account for differing cultural contexts. Such adaptations may enhance the ability of teachers to deliver care. This study explored adaptations made to a teacher-led, task-shifted intervention, Tealeaf-Mansik Swastha (“Tealeaf”), implemented in the Darjeeling Himalayas of India, and corresponding child outcomes. **Method:** In 2019, teachers (n=24), based in five primary schools in Darjeeling, participated in “Tealeaf”. Teachers attended a 10-day training on functional behavior assessments and cognitive-behavioral therapeutic techniques. Teachers selected two children each from their classrooms for targeted intervention. Teachers, under the supervision of a social worker, made intervention plans for each targeted child using training techniques. Teachers adapted the techniques to suit the Darjeeling context needed. Using these plans as a guide, teachers provided targeted intervention during the school year. The plans (n=17) were coded to determine what and how many training techniques and adaptations were used during the intervention. A few teachers (n=7) participated in semi-structured interviews coded for comments on program adaptations among other key themes. **Results:** Results indicated that teachers adhered strictly to techniques taught in the training 89% of the time and adapted program tools 11% of the time. Of the program tools that teachers chose to adapt, 85% were teacher-centric (those that only teachers could deliver given their role in the child’s life), and 15% were traditional cognitive-behavioral techniques. In the interviews, teachers detailed individual adaptations made and cited program flexibility as a facilitator of program outcomes. **Discussion:** Findings outline how teachers adapted

Westernized evidence-based techniques for the cultural context of Darjeeling. Teachers generally adapted teacher-centric program tools, often behavioral and academic in nature, rather than traditional therapeutic techniques. In Darjeeling, education is emphasized culturally, perhaps leading teachers to gravitate towards the use of academic tools to foster program acceptability among community members. Teachers may also have felt greater agency in adapting more familiar techniques. The flexibility of the program and continuous supervision facilitated program delivery and outcomes. Future directions involve continued exploration of the role of adaptations in cross-cultural, task-shifted interventions.

**No. 48****Exploring the Multifaceted Burden Among Caregivers of Patients With Schizophrenia in Rural Ethiopia: The Qualitative Aspect**

*Poster Presenter: Treanna Wilson*

*Co-Authors: Bidisha Das, M.P.H., Daisy C. Perez, M.P.H., Christina P. C. Borba, Ph.D., M.P.H.*

**SUMMARY:**

**ABSTRACT- BACKGROUND:** Schizophrenia affected 20 million people globally as of 2019<sup>1</sup>. In Ethiopia, nearly two-thirds of caregivers of patients with schizophrenia experienced moderate to severe level burden<sup>2</sup>. Caregiver burden is described as the overwhelming feeling of caring for an individual with severe mental illness (SMI) and it directly translates to the extent of care the patient receives<sup>2,3</sup>. The term burden includes physical, financial, emotional, and social hardships that care-givers face<sup>2</sup>. The enormity of caregiver burden is not only associated with socio-demographics, but is also related to the magnitude of the patient’s clinical characteristics<sup>2</sup>. This study aimed to explore how caring for a patient with schizophrenia gave way to varied manifestations of burden for caregivers in Butajira, Ethiopia. **METHODS:** Data were collected using open-ended, semi-structured, individual in-depth interviews. Interviews were 90 minutes in duration and were conducted by Ethiopian research assistants in Butajira, Ethiopia. Participants consisted of patients’ family members and close social contacts (age >18), as identified by the patients. All interviews

were conducted and audio recorded in Amharic and professionally transcribed in Amharic and translated into English. Thematic analysis<sup>4</sup> was conducted on the interviews by the coding team which included two coders and a qualitative lead. RESULTS: This analysis came from a larger NIMH study and included 44 interviews from caregiver participants and patients' social contacts (mean age=38.814.91, 80% male, n=25). Preliminary findings suggested that the most common burden-centered themes among caregivers were psychosocial, emotional, financial, and physical burden. Inability to do daily activities such as sleep, work, or participate in community life due to constant supervision of the patient was required of the caregiver. Accounts of extreme emotional affliction brought on by caring for an individual with SMI range from adverse emotions to suicidal ideation. Findings also suggested that caregivers experienced a sense of deep guilt when their lack of resources negatively affected their ability to meet the needs of the patient. CONCLUSION: Preliminary results show the majority of caregivers experience varied forms of burden. Additional research is needed to better understand how culturally-appropriate strategies can be implemented to holistically support caregivers of patients with SMI. This study was supported by the National Institute of Mental Health (NIMH), Mentored Research Scientist Development Award (K01).

#### **No. 49**

##### **Feasibility and Acceptability of Ecological Momentary Assessment of Community-Dwelling Adults at Suicide Risk**

*Poster Presenter: Hyein Kim*

*Lead Author: Heejung Kim*

*Co-Authors: Sunyoung Park, Chaehyeon Kang, Seong Ae Kwon*

##### **SUMMARY:**

Ecological momentary assessment (EMA) has seen increasing use in mental health research in naturalistic environments. In spite of its usefulness in suicide research, very few studies using EMA methodology have been conducted of community-dwelling adults with suicidal ideation. This study aimed to examine the feasibility and acceptability of

EMA in identifying daily suicide risk among community-dwelling adults ( $N = 16$ , 68.75% female,  $M_{age} = 28.19 \pm 12.08$ ) who responded to two to three daily EMA prompts via smartphone for four weeks. Study feasibility was demonstrated by a reasonable response rate to EMA prompts of 84.35% and acceptable adherence rates in wearing the actigraph (97.78%, average duration,  $13.39 \pm 0.65$  days). Participants were instructed to press the event marker on the actigraph when experiencing suicidal ideation during the study. A total of 186 marker logs were recorded from all 16 participants, with an average of  $12.44 \pm 15.47$  per person. The suicidal ideation events most frequently occurred at 5 pm and 8 pm. Participants reported their overall experiences during the study as satisfactory and the level of the EMA survey as understandable, that participation in the study was not particularly burdensome, and that they would be willing to participate in a further study. Some of them reported that pressing the event marker made them distracted from suicidal ideation or impulse. Specific strengths and limitations of the study design are discussed based on participants' responses to open-ended questions at the end of the study. Overall, intensive EMA designs proved feasible and acceptable for adults at suicide risk dwelling in the community. Specific advice is provided for managing safety issues regarding vulnerable participants for future research following this study design in community settings.

#### **No. 50**

##### **Hallucination Content and Attitudes Toward Experiences of Hallucinations by Race**

*Poster Presenter: Emily Thomas-Tran, B.A.*

*Co-Authors: Ivy Tran, Jane Thomas-Tran, B.A., Rona J. Hu, M.D.*

##### **SUMMARY:**

*Objective:* Previous literature described variations in hallucinatory content by certain cultures and geographic locations. Prior studies separated cohorts for comparison based on geographic location (Kent and Wahass 1996; Vermeiden et al. 2019), but have not specifically investigated the experiences of individuals living in the same area but from differing racial backgrounds. The aim of the current study is to

investigate the differences in hallucinatory content, hallucination language, and attitudes toward hallucinations for individuals of different races within a region and receive care from the same major academic center. *Methods:* Patient cohorts were aggregated from an integrated database. Inclusion criteria was ages >10yrs, diagnosed ICD codes F20-29 (schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders), known race, language, and documented hallucination content. We excluded patients with hallucinations due to non-psychiatric causes (ie. illicit drugs, medications, neurological pathology, sepsis). Racial cohorts of White/Caucasian, Black/African American, and Asian each had n=50, and due to limited subjects, Native Americans was n = 8, Pacific Islanders was n = 7. Hallucination content, language of hallucinations, and perception of hallucination symptom were compared between cohorts. Study received IRB approval from the home institution (IRB61: registration # 4947). *Results:* We found that Pacific Islander/Native Hawaiians had the most individuals with positive attitude towards the hallucinations per capita compared to other cohorts (positive:negative = 3:4), while White/Caucasians had the most subjects with a negative attitude per capita (positive:negative = 1:11). The most common hallucination topic by cohort is: Pacific Islander/Native Hawaiian was family being supportive (n=3), American Indian/Native American were animal/nature, electronics, religious, and self-harm (n=2 for each), Hispanic/Latinx were religious and derogatory, including bullying and racist content (both n=15), Black/African American was derogatory content (n=21) with an emphasis on racism (n=11), and Asians was again derogatory content (n=22) specifically from family (n=18). Hispanic/Latinx predominantly hallucinate in English, while Asians predominantly hallucinate in their native language. *Conclusions and Implications for Practice:* Understanding differences in the hallucinatory experience of individuals with schizophrenia spectrum disease by race will help to inform the practice of psychiatry, particularly for psychiatrists practicing in areas with a diverse patient populations. Our study confirms that patients from different racial backgrounds experience hallucinations differently despite living within one geographic area. Indeed our results shows the need

to explore the content of hallucinations and to connect it to the particulars of the individual's life experience to practice cultural humility.

#### **No. 51**

#### **Haphephobia a Rare Disorder, Fear of Being Touched by Husband**

*Poster Presenter: Saifun Nahar, M.B.B.S.*

*Co-Authors: Muhammad Sayed Inam, M.B.B.S., M.Phil., Mohammed Zubayer Miah, M.B.B.S.*

#### **SUMMARY:**

Mrs. X., A 22-year-old Bangladeshi female, married for 8 months, presents to the psychiatric consult service with an intense fear of being touched by her husband. She told that her husband is so sober in approach and has a very good personality. But she noticed that whenever her husband comes closer to her, her heart starts to pound fast, she feels discomfort in the chest, a burning sensation on her whole body, discomfort in the head, and loses control over the environment. She shouts, throws things, and sometimes screams. Furthermore, she can't sleep properly for the fear of being touched. She remains gloomy all the time and feels helpless and restless. She remains worried all the time for her conjugal life for the last 8 months. Then she developed fainting attacks and disorganized behavior and her in-law-parents concluded that some "evil spirits" might cause the symptoms. So her husband brought her to a Psychiatrist. On an in-depth assessment session, ensuring the confidentiality issues, she told to the Psychiatrist that she has a history of brutal sexual abuse by her stepfather at the age of fourteen by sedating her. Though she informed her mother everything about that, her mother couldn't give any kind of support. Furthermore, her stepfather gave the threat to kill her if she discloses it to anyone else. Her stepfather was a very short-tempered person, and sometimes he used to beat her mother. Her mother was helpless as she was totally dependent on financial support from that person. She became scared and could not share it with anyone else. She suffered from depression for a long time and did not take any treatment. After a thorough medical workup and history gathering, her consultant psychiatrist could elucidate the source of the presenting picture and

told her that she developed haphophobia, a specific phobia of being touched due to previous sexual assault, and suggested taking psychotherapy along with prescribed medicines. Fear of being touched is a particularly difficult fear to cope with. Patients with haphophobia after sexual assault should be handled very cautiously by the experts keeping confidentiality issues in mind. Cognitive-behavior therapy, Exposure therapy, Virtual reality exposure therapy, practicing mindfulness, using daily coping strategies, and medications like beta-blockers, anxiolytics, antidepressants can help a person to overcome haphophobia. In this poster, we discuss the symptoms, etiology, and management in brief of haphophobia patients.

#### **No. 52**

##### **Hiding in Plain Sight: Eating Disorders in Diverse Populations—the Case for More Comprehensive Medical Education**

*Poster Presenter: Madeline O. Jansen, M.D., M.P.H.*

#### **SUMMARY:**

**Author name(s) and title(s):** Madeline O. Jansen MD MPH<sup>1</sup>, Tashalee R. Brown MD PhD<sup>1</sup>, Alexis E. Duncan PhD<sup>1,2</sup>, Ginger E. Nicol MD<sup>1</sup>

<sup>1</sup> Department of Psychiatry, Washington University School of Medicine, St. Louis, MO <sup>2</sup> The Brown School of Public Health, Washington University, St. Louis, MO

**Background** Eating disorders (EDs) are among the most debilitating and severe psychiatric illnesses.<sup>1</sup> They are insidious, chronic, and associated with a significantly elevated risk of medical complications, physical disability, and death.<sup>1</sup> Although prevalence is high, with 55.5 million people affected worldwide, EDs remain undertreated and under-recognized.<sup>1</sup>

Racial, ethnic, sexuality, and gender identity minorities (RESGM), are especially underrepresented in clinical samples,<sup>2</sup> even though studies suggest them to be disproportionately affected.<sup>3</sup> Many factors appear to be contributing to this disparity, including lower rates of help seeking among patients of color<sup>3</sup> and clinician bias.<sup>3</sup> Insufficient clinical training in EDs is known to be a widespread problem in US medical schools,<sup>2</sup> therefore insufficient ED training in RESGM may be a key mediator. However, the existence of additional training gaps in this population has yet to be explored. **Methods** To

further explore the role of training to improve ED recognition in RESGM populations, we examined ED knowledge and practices with a digital survey from 12/1/2020–3/1/2021. The study was approved by institutional review board. Respondents were trainees in obstetrics and gynecology (n=7,7.6%), emergency medicine (9, 9.8%), psychiatry (15,16.3%), general surgery (18,19.6%), internal medicine (43,46.7%). Among the 92 respondents, (41,44.6%) were cis-male, (49,53.3%) cis-female, (2,2.2%) non-binary. Age ranged from 25-46 years (median 29 years). (82,89.1%) were heterosexual, (4,4.3%) homosexual, (4,3.3%) bisexual, (3,3.3%) other. (59,58.4%) were white, (24, 23.8%) Asian, (7,6.9%) multiracial, (4,3.9%) Latin-X, (2,2%) Black, (1,1%) Indigenous Native Hawaiian Pacific Islander.

**Results** Self-reported confidence in general ED knowledge was highest for medical complications (n=42,45%), followed by risk factors (38,41%), clinical presentation (32,35%), discussing ED behaviors (28,30%), diagnosis (26,28%), treatment (16,17%), and local ED treatment resources (10,11%). The majority of respondents (75,79%) responded they “rarely” or “never” screen for EDs in their patients, RESGM included. 75% (69) did not feel competent in treating EDs in RESGM patients and 66%(61) desired additional training in this area.

**Conclusion** Our findings suggest a disconnect between confidence in general ED knowledge and screening practices that may be addressable with enhanced training. Deficits in ED knowledge among RESGM patients appear to be especially pronounced, indicating a need for focused efforts within diverse populations.

#### **No. 53**

##### **Hurdles to Seeking Psychiatric Care After Partial Left Frontal Lobectomy in Military Personnel**

*Poster Presenter: Ritika Mallavarapu*

*Co-Authors: Brittany Covil Montgomery, M.D., Silvina Beatriz Tonarelli, M.D.*

#### **SUMMARY:**

The frontal lobe has been identified as a region of the brain that is imperative for an individual's executive functioning, language, memory, and judgement. When the frontal lobe undergoes trauma, deficits in the aforementioned functions can

result in personality changes, speech difficulty, memory impairment, and mood symptoms. The case of a 29-year-old male who undergoes a partial left frontal lobectomy secondary to a grade II/III astrocytoma demonstrates the neuropsychiatric manifestations of frontal lobe dysfunction. Although prior to the surgery the patient demonstrated mild anxiety and anger related to his occupation as a combat engineer in the military, the severity of his mood symptoms were amplified after the procedure. Additionally, new symptoms such as inappropriate laughter, abulia, anomia, and impaired short term memory and attention presented postsurgical as well. Prior to the amplification of his psychiatric symptoms, secondary to the brain tumor, the patient was resistant to seeking help from a psychiatrist due to biases regarding how the military views mental health. When the symptoms ultimately impaired his relationships, quality of life, and well-being, the patient sought care outside the designated military hospital in order to maintain anonymity. Although being a part of the military can provide the economic means to obtain healthcare, stereotypes regarding mental health interweaved throughout military culture may ultimately present as an obstacle for an individual who is in need of psychiatric support. Understanding the social determinants of mental health present in military communities can help medical providers identify a population that may be vulnerable to needing mental health resources but face difficulty seeking them. Ultimately, normalizing mental health conditions and providing adequate psychiatric support for military personnel will be the cornerstone of providing equitable healthcare.

#### **No. 54**

#### **Hypertensive Patient With Paradoxical Decrease in Blood Pressure During Intranasal Esketamine: A Case Report and Literature Review**

*Poster Presenter: Samuel Reinfeld, D.O.*

*Co-Author: Lucian Manu, M.D.*

#### **SUMMARY:**

**Aim:** To demonstrate the safety of Esketamine in patients with hypertension. In this case, we present a patient with poorly controlled hypertension who had consistent decreases in his blood pressure in

each treatment session with Esketamine.

**Background:** Treatment resistant depression effects up to a third of patients suffering from depression. With the realization of ketamine and its more active enantiomer, (S)+ ketamine, having rapid and potent antidepressant properties, a new agent was added to the armamentarium of the psychiatrist. An intranasal formulation of the (S)+ racemate of ketamine was approved for refractory depression. This novel antidepressant which increases glutamate transmission does have the propensity to cause transient but potentially dramatic increases in blood pressure for up to 4 hours. This is especially true for those with existing hypertension and vascular disease. Patients with all psychiatric illnesses including depression are more likely to have comorbid medical problems like hypertension. This may lead to reluctance in starting this potentially lifesaving therapy for treatment resistant depression patients. **Methods:** We present a case of a 29-year-old male with treatment resistant depression and hypertension on three antihypertensive medications, who was treated with Esketamine. A review of the literature using a PubMed search was conducted. **Results:** Mr. S is a 29-year-old Caucasian single male with a long history of treatment resistant depression, social anxiety, and panic disorder. His medical history was significant for hypertension, which was diagnosed in his early twenties with no apparent secondary cause. He was on an antihypertensive regimen consisting of amlodipine, hydrochlorothiazide, and losartan. He was admitted to the inpatient psychiatric unit after overdosing on his medication with suicidal intent. During his hospitalization, it was decided that intranasal Esketamine would be an appropriate treatment option given his refractory depression and suicide attempt. His first dose of Esketamine was 28mg. A baseline blood pressure was measured at 136mmHg/90mmHg and was checked every 15 minutes for the first hour and 30 minutes for the second hour. For the remainder of this induction phase treatments, the mean difference of pre- and post-baseline systolic blood pressure was 16.25mmg. **Conclusion:** To our knowledge, this is the first reported case of Esketamine lowering the blood pressure in a patient with hypertension. People suffering with anxiety are more likely to have hypertension (and other diseases) independent of

other risk factors. This further supports the notion that anxiety be an underlining cause of hypertension.

#### **No. 55**

##### **Impact of Major Depressive Disorder With Moderate-to-Severe Insomnia Symptoms on Health-Related Outcomes**

*Poster Presenter: Kruti Joshi, M.P.H.*

*Co-Authors: M. Janelle Cambron-Mellott, Alanna Pfau, M.B.A., Manish Jha*

#### **SUMMARY:**

**Background:** Insomnia is a common symptom of major depressive disorder (MDD). However, the impact of insomnia on health-related outcomes among patients with MDD is not well understood. Therefore, this study evaluated the clinical, patient-centered and economic burden of adults with MDD with moderate or severe insomnia symptoms (MDDIS) compared to adults with MDD and no or mild insomnia symptoms (other-MDD) and adults in the general population without MDD (non-MDD). **Methods:** Retrospective, cross-sectional data from the 2019 US National Health and Wellness Survey (NHWS) were utilized to identify respondents who self-reported a diagnosis of depression and those who did not (i.e., non-MDD). Respondents with MDD were stratified by insomnia status: MDDIS (Insomnia Severity Index [ISI] score  $\geq 15$ ) and other-MDD (insomnia not experienced in past 12 months or ISI score  $< 15$ ). Measures included depression severity, anxiety severity, daytime sleepiness, healthcare resource utilization, health-related quality of life (HRQoL), work productivity and activity impairment, and direct and indirect costs. The other-MDD and non-MDD cohorts were matched to the MDDIS cohort on age, sex, and race. Unmatched and matched bivariate analyses compared MDDIS respondents with other-MDD and non-MDD respondents. **Results:** A total of 10,265 of the 74,994 respondents to the NHWS were classified as MDD; among those with MDD, 2,045 (19.9%) were classified as MDDIS (2.7% of total NHWS respondents). In unadjusted analyses, respondents with MDDIS reported greater depression and anxiety severity, greater daytime sleepiness, and higher provider, psychologist/therapist, psychiatrist, and ER

visits than those with other-MDD ( $n=8,220$ ) and non-MDD ( $n=59,859$ ) (all  $p<0.001$ ). Respondents with MDDIS also reported lower mental and physical health functioning, poorer HRQoL, and higher absenteeism, presenteeism, work impairment, and activity impairment compared to those with other-MDD and non-MDD (all  $p<0.001$ ). Direct and indirect costs were also significantly higher for respondents with MDDIS compared to those with other-MDD and non-MDD. These findings held even after matching on age, sex, and race. **Conclusions:** The current study found that, among US adults with MDD, the presence of moderate to severe insomnia symptoms exerted additional burden and notable impairments across several health outcomes as compared to those with MDD but no to minimal insomnia symptoms and to the general population without MDD. This study highlights the burden of MDDIS and the need for MDD treatments that better target insomnia symptoms in adults. This study was supported by Janssen Scientific Affairs, LLC.

#### **No. 56**

##### **Implementing an Evidence-Based Postpartum Depression Prevention Program Within an Existing Prenatal Yoga Curriculum**

*Poster Presenter: Frances K. Hanson*

#### **SUMMARY:**

**Background:** Postpartum depression affects 1 in 7 women in the general population, and 1 in 3 women who fall within the low socioeconomic status (SES), with significant impacts to the health and development of newborns and young children. The ROSE program is an evidence-based postpartum depression prevention program aimed at educating new mothers-to-be about postpartum depression, stress management, and interpersonal conflict resolution for a more successful transition into motherhood. The ROSE program has proven to be effective at reducing the incidence of postpartum depression by 50%, especially those women with low SES. This project seeks to assess how well the ROSE program can be adapted and integrated into an existing prenatal yoga program at Covenant Women and Children's hospital in Lubbock, TX to ensure more women, especially those with low SES, have important education and skills development to

counteract postpartum depression. **Method:** The 4-part ROSE program has been segmented into an 8-part series that will be synced with an existing prenatal yoga program at Covenant Women and Children's hospital. The ROSE program content will be discussed as themes within the prenatal yoga setting and discussed in a group setting after each class. Participation in the 8-part prenatal yoga series will be tabulated and surveys will be filled out by participants regarding the accessibility of the content, perception of knowledge of postpartum depression as well as skill development around stress management and interpersonal conflict resolution. **Results:** Results are still in the process of being analyzed. **Conclusion:** Postpartum depression is a mental burden faced by new moms which has significant impacts on the development of newborns and children. With such high incidence in all women, with disproportionate impacts on low SES women, more needs to be done to increase awareness and build a skillset to better prevent and limit the lasting impacts of postpartum depression. This project aims to implement an evidence-based ROSE postpartum depression prevention into an existing prenatal yoga curriculum. The 4-part ROSE curriculum has been adapted into an 8-part series that can be integrated within an existing prenatal yoga program with the promise of making postpartum depression prevention accessible to more women. The promise of a successful adaptation of the ROSE program into an existing prenatal yoga program will show that postpartum depression prevention content can be implemented in other pediatric settings, especially within the high-stress environment of the NICU.

#### **No. 57**

##### **Implicit Bias in Clinical Setting and the Role of Consult and Liaison Psychiatrist**

*Poster Presenter: Argyro Athanasiadi, M.D., M.Sc.  
Co-Authors: Nithya Cherukuru, Samantha Latorre,  
Anique Forrester*

##### **SUMMARY:**

LM is a 33-year-old Black, cis-gendered female admitted for surgical fixation of mandibular injuries after a fall. Psychiatry was consulted for management of acute agitation and psychiatric history including bipolar disorder and schizophrenia.

A review of medical records showed frequent presentations to the hospital for depression and suicidal ideation in the context of opioid, cocaine, or K2 intoxication. There was no evidence of psychosis or mania other than listed diagnoses. Her current admission showed administration of multiple antipsychotics, though no pain medications were scheduled despite her injuries and surgery. Her clinical exam was consistent with acute delirium which rendered her incapable of communicating her basic needs. Psychiatry recommended optimizing her pain medications, monitoring for substance withdrawal, and treating dangerous behaviors with low dose haloperidol. However, she continued to receive high doses of multiple antipsychotics without any change to her pain medication regimen. She ultimately required ICU admission for sedation with dexmedetomidine. Ms. B is a 48-year-old white female with PMH significant for chronic Hepatitis C, bronchitis, obesity, neuropathy, and a history of leukopenia and thrombocytopenia since 2018 with reported past psychiatric history of depression, anxiety, and opiate use disorder who was brought by police to the ED for altered mental status. Psychiatry was consulted by the primary team for management of her depression and anxiety. Subsequent review of documentation indicated a significant delay by the team in contacting her Methadone clinic to verify the dose and administer the medication. Patient had been on Methadone 120mg for 15 years which was well documented in her chart. This delay led to her not receiving her scheduled dose for more than 24 hours which precipitated withdrawal. Implicit (Unconscious) bias involves learned stereotypes and prejudices that operate automatically, and unconsciously, when interacting with others. All people demonstrate some degree of unconscious bias when interacting with others and clinicians are not excluded. There has been some moderate evidence (Fitzerald and Hurst, 2017) that implicit bias may influence a clinician's decisions regarding treatment. Fortunately, though, when controlled for impact in their medical decisions data shows that implicit bias is not as strong. In order to reframe CL from a social justice perspective, the consultant psychiatrist will need address diversity, inclusion, and equity in clinical care and nurture antiracism by asking questions and think collaboratively with the primary team about such cases. One of the roles of a

CL psychiatrist would be bringing to primary team's attention such behaviors and raise awareness regarding disparities in healthcare.

#### **No. 58**

##### **Importance for Early Diagnosis and Management of Psychiatric Comorbidities in Parkinson's Disease:**

##### **Inputs From Nationwide Inpatient Study**

*Poster Presenter: Vaishalee Namdev, M.B.B.S.*

*Co-Authors: Goher Haneef, M.D., Jaskaranpreet Kaur, M.B.B.S., Pradipta Majumder, M.D.*

##### **SUMMARY:**

**Objectives:** We conducted the study with these goals: 1. to delineate the differences in demographic characteristics in Parkinson's disease (PD) patients by psychiatric comorbidities, and 2. to evaluate the impact of psychiatric comorbidities on the level of functioning and utilization of deep brain stimulation (DBS), and disposition status of PD inpatients. **Methods:** This was a cross-sectional study conducted using the nationwide inpatient sample (NIS) and included 56,844 PD inpatients (age =40 years), and 32.5% had psychiatric comorbidities (N=18471). Statistical analysis was performed using Pearson's chi-square test; the differences in continuous variables (i.e., age, LOS, and cost) were analyzed using the independent samples t-test. **Results:** A significantly higher proportion of PD inpatients with psychiatric comorbidities were female (44.4%) and Caucasian (83%) and about half of them had a moderate loss of function compared to those without psychiatric comorbidities. The most common psychiatric comorbidities seen in PD inpatients are mood disorders (72.7%) and anxiety disorders (34.3%) followed by psychotic disorders (12.4%) and SUD (6%). PD inpatients with psychiatric comorbidities had a significantly lower utilization of DBS (19.2% vs. 26.9%,  $P < 0.001$ ) and adverse disposition/transfer to nursing facility (47.1% vs. 39.6%,  $P < 0.001$ ) compared to those without psychiatric comorbidities. **Discussion and Conclusion:** Psychiatric comorbidities cause significant loss of functioning in PD requiring nursing care due to cognitive decline and deterioration in activities of daily living with poor quality of life (QoL) and raising caregiver burden. Despite this, there is underutilization of DBS in these patients which could

be due to limited information of DBS indications, side-effects, and cost and insurance coverage. A collaborative care model needs to be implemented for earlier diagnosis and management of psychiatric comorbidities in patients with PD to improve their QoL.

#### **No. 59**

##### **Improving Prescription Rates of and Trainee Confidence in Medications for Alcohol Use Disorder: VA Quality Improvement and Curriculum Development**

*Poster Presenter: Devin McDonald*

*Co-Authors: Sachinder Vasudeva, Linda Zhang Galicki, M.D., Oluwatomiwa Babade*

##### **SUMMARY:**

**Introduction:** Disulfiram, Acamprosate, Oral and Injectable Naltrexone are medications for addiction treatment (MAT) approved by the US Food and Drug Administration (FDA) to treat Alcohol Use Disorder (AUD) (1). Disulfiram inhibits aldehyde dehydrogenase to produce an uncomfortable disulfiram-ethanol reaction if combined with alcohol, acting to enforce sobriety and sustain abstinence in highly motivated patients (1). Acamprosate modulates NMDA receptor and glutamatergic neurotransmission (2). It has been associated with reduction in the risk of drinking and sustaining abstinence in patients with AUD (3). Naltrexone is a nonselective antagonist at mu, kappa and delta opioid receptors (4) offered as an oral formulation or long-acting injectable formulation, with similar efficacy and adverse event profile (3). It has been shown consistently to reduce drinking frequency and relapse rates to any drinking and specifically binge drinking throughout multiple trials (3). Those who have just completed a hospital-based or residential treatment program, such as the DOM-SUD, are suitable candidates for MAT for AUD (3), (4). Despite efficacy of MAT for AUD, they are often underprescribed. The Salem Veterans Affairs Medical Center (VAMC) currently has a prescription rate for MAT for AUD of 7.8%. This is below the average prescription rate for MAT for AUD in both the Veterans Health Administration (average of 9.9%, up from 3.4% from 2009) (5), and in non-VHA organizations at 9% (1). **Aims:** Main barriers to



increasing consideration for prescription of MAT for AUD were perceived low patient demand by the physician, lack of provider skill and lack of confidence in treatment effectiveness (6), (7). We aim to increase education to patients and resident/fellow trainees on medications, and increase involvement of trainees in treatment of AUD, to remove barriers to prescribing MAT for AUD. Our goals are to better assist veterans with AUD in maintaining abstinence from alcohol, while developing a curriculum that will improve confidence in prescribing in trainees. Methods: Trainees were surveyed at the beginning and end of rotation regarding their confidence in prescribing MAT for AUD. Trainees were educated on MAT for AUD during orientation at onset of rotation by DOM-SUD director. Trainees then provided dedicated time on patient education on MAT for AUD during psychiatric intake assessment. Education was standardized to reviewing handouts from VA Academic Detailing and UpToDate to veterans receiving care for AUD at the Salem VAMC DOM-SUD Program. Prescription rates of MAT for AUD at the Salem VAMC DOM-SUD were compared with those from 6 months prior and 6 months post intervention. Trainees survey results were compared for increased confidence in prescribing MAT for AUD.

#### **No. 60**

##### **Incidence of Psychosis in Aboriginal Peoples of Top End of the Northern Territory; a Coincidence, Substance Abuse or Resource Misallocation?**

*Poster Presenter: Aliza Mushtaq*

*Lead Author: Tamoor Mirza*

*Co-Authors: Muhammad Hassan Majeed, M.D.,  
Noor-Us-Sabah Ahmad, Abyaz Asmar*

#### **SUMMARY:**

**Background:** Epidemiological data on the rates of psychosis in Indigenous Australians is scarce. Two studies have found alarmingly high rates of psychotic disorders in the Indigenous population of Far North Queensland where Aboriginal people were impacted more severely than Torres Strait Islanders. This study aims to estimate the incidence rate of the first episode of psychosis (FEP) in the Top End of the Northern Territory and its influencing factors.

**Methods:** Cases of FEP, aged between 15-24,

presenting to the two specialist mental health services in the Top End were identified over a five-year period; The Top End Mental Health Services (TEMHS) and headspace Youth Early Psychosis Program (hYEPP). Anyone with a previous diagnosis of psychosis or with an organic basis to the disorder was excluded. Population demographic data was collected from the 2016 Australian National Census. Negative binomial regression was used to estimate how incident rates varied by age, sex, Aboriginal status, substance use, and remoteness. **Results:** Total 236 cases of FEP in 15–24-year-olds in the Top End were identified over a five-year period. The overall incidence rate was very high (174 per 100,000 person-years). Rates were extremely high in the Aboriginal (331 per 100,000 person-years) and remote populations (308 per 100,000 person-years), and lower in the non-Aboriginal population (85 per 100,000 person-years). Aboriginal participants were more likely to reside in remote areas (75% vs 8%,  $p < 0.001$ ) than the non-Aboriginal participants. Multivariable analysis indicated that FEP was much more common for Aboriginal people and men (IRR 3.04 and 2.72 respectively). Substance use was recorded in 85% of participants, with 80% of participants using cannabis, indicating the highest proportion of substance-induced psychosis. **Conclusion:** Very high rates of FEP were identified in young men in the Top End, attributable to extremely high rates in the Aboriginal population, many of whom live in remote areas. Resource allocation should reflect our findings as they present challenges for service delivery in the Top End. Mental health services are concentrated within the greater Darwin region. Establishment of rehabilitation programs can reduce the rate of psychosis as most cases were of substance-induced psychosis. Prevention and intervention efforts should address the mental health needs of this high-risk population.

#### **No. 61**

##### **Individual Symptom Changes of Depression During Treatment -Psychiatric Symptoms Recover After Recovering Somatic Symptoms-**

*Poster Presenter: Yuichiro Y.T. Tokunaga, M.D.*

## SUMMARY:

1. Introduction In Japan, not only severe mental illness, but also the mildness of depression and the increase of suicides have become social problems with the times. In 1989, we opened an additional ward specializing in depression (48 beds) with full open treatment for the purpose of responding to changes in the times. By December 2021, there were 5,714 inpatients and 13 (0.2%) inpatients suicidal death. Twenty-six percent of hospitalized patients had a history of suicidal attempt, and 78% had suicidal ideation at the time of admission. According to the classification of diseases by psychiatrists, more than 80% of inpatients diagnosed with depression (F32, F33). In addition to consideration for the treatment environment and drug therapy, we provide individual and group psychotherapy, mindfulness, Ayurveda, reinstatement support programs, etc., focusing on prevention of recurrence and treatment of internal aggression.

2. Objectives At our hospital, we have examined changes in each symptom during the recovery process of depressed patients during hospitalization (Okumura, Tokunaga: 2018, 2019). This time, we compared each symptom at the beginning of treatment according to the severity of depression and examined the change of each symptom according to the severity during the treatment process.

3. Targets and methods The subjects were 500 people who were admitted to the Shiranuhi Hospital Stress Care Ward for 15 days or more from October 1, 2015 to March 31, 2018, and were diagnosed with F32 and F33 by ICD-10 by psychiatrists. The survey items were the Hamilton Symptoms Evaluation Scale (HAM-D), Depression Self-Evaluation Scale (SDS), and Shiranui Stress Checklist (40 items), which were evaluated at admission, 4 weeks, and discharge. The study was conducted by 350 people who were able to carry out all of the above items. The control group consisted of 172 staff members of our hospital, and the evaluation method used was Standard deviation, Wilcoxon signed rank test, and Dunnett's test. In addition, this time, a comparative study using drug therapy and non-drug therapy was not conducted.

4. Result Regarding the degree of recovery using HAM-D, significant recovery was observed at the time of admission, 4 weeks of admission, at the time of discharge, and at each treatment stage for both men and women. A comparison of initial depression with

repetitive symptoms did not show a significant difference in the course of recovery of individual symptoms. Changes in the Hamilton symptom rating scale showed a similar recovery at discharge, regardless of whether it was severe or mild. In terms of changes over time by severity, it is natural to compare HAM-D at the time of admission, but the numerical value is high in severe cases and low in mild cases, and the most severe is 28.3 points at admission to 9.7 points in one month after admission. It changed to 6.5 points at discharge. In severe cases, it changed from 20.0 at admission to 7.5 points one month later and 5.4 points at discharge. Since the number of mild and moderate cases is small because of the inpatient data, the total of mild and moderate cases was described as mild and examined below. The results were 14.1 points lower at admission, 7.1 points one month later, and 4.5 points lower at discharge. However, when observing the course of treatment, the difference between severe and mild cases decreased in the first month of hospitalization, and at the time of discharge (about 3 months), the most severe points were 6.5 points, severe cases were 5.4 points, and mild cases. The result was 4.5 points, with almost no difference. From this result, it was found that even severe cases are not difficult to cure, and mild cases are not easy to cure. Although it is a limited condition of inpatient treatment, it is worth considering what is meant by the result that there is no difference in the degree of recovery by severity.

(1) In addition, in the changes by individual symptoms, the 40 items of the Shiranui stress check, "deterioration of efficiency", showed a high score similar to that of severe cases even if they were mild at the time of admission. Furthermore, the more severe the problem, the more frequently problems such as "loss of taste" and "cannot eat favorite food" were observed.

(2) Psychiatric symptoms recovered to the same level as mild, severe, and most severe, but there was a difference in recovery of physical symptoms. The recovery was as follows: many physical symptoms such as poor appetite?headache? recovered in about 1 month after admission, while mental symptoms such as depressive feeling,lack of concentration gradually recovered in 3 months before discharge.

(3) Comparing individual symptoms with gender differences, the incidence of symptoms was higher in women, and the tendency

was higher in physical symptoms. 5. Consideration In Japan, due to the rapid change to the tertiary industry and the introduction of IT, the conditions that regulate the employment of workers and employees with depression have changed from "somatic motivation" and "depression" to "concentration" and "judgment". It's changing. The results of this study showed that the concentration and judgment were equally reduced from mild to severe, suggesting that even mild depression may interfere with work. Considering the changes in the situation surrounding modern workers, it is considered that there is room for consideration as to how to treat mild depression. Depression is a mixture of psychiatric symptoms and physical symptoms. Okumura (2017) focused on changes in the symptoms of depression and reported that mental and physical symptoms recovered in tandem. Therefore, this time, we focused on the changes in individual symptoms and examined whether they could be used for treatment.

#### **No. 62**

##### **Initial Descriptive Report of a Cross-Sectional Study on Social Cognition Among Schizophrenia Outpatients Using the AIHQ**

*Poster Presenter: Gabrielle Huneault*

*Co-Authors: Naista Zhand, Tommy Han, Dana Ghanem, Preet Gujral*

#### **SUMMARY:**

Introduction: Schizophrenia is a heterogenous illness encompassing a diversity of symptom domains. Cognitive impairments are one of the eight dimensions of schizophrenia symptoms, which includes social cognition. Social cognition involves individuals' mental processes of social interactions, including the perception of others' intentions. Patients with schizophrenia have a greater tendency to perceive other individuals and situations negatively. They are also more likely to perceive hostility in social situations. Here we report on preliminary findings of a larger study of comparison of the social cognition impairments in patients with schizophrenia among three clinical subtypes: 1) treatment-responsive, 2) treatment-resistant, 3) ultra-treatment resistant. Method: Data from this study was derived from the Ambiguous Intentions

Hostility Questionnaire (AIHQ). The AIHQ evaluates hostile social-cognitive biases by asking participants a range of questions about negative intentionality. Participants were recruited in a convenience sample from the Schizophrenia Outpatient Program at the Royal Ottawa Mental Health Centre. Participants were first approached by a research assistant to complete the questionnaire. Informed consent was obtained, and the questionnaires were completed with a research assistant available to answer any questions. The patient's demographic information (ex. age, sex, income), medical and psychiatric history, and current medications were collected from patient's medical record. Clinical Global Impression for schizophrenia (CGI-Schiz) was done by treating psychiatrists to control for symptom severity. Results: Of the 23 participants; 20 finished the ambiguous section, 20 finished the accidental section and 19 completed the entire questionnaire. Of the total 23 participants, 86.9% were male and mean age was 39.2 years. We have totaled the scores using 2 methods. In the first, we totaled the scores from the 3 Likert scales (intentionality, anger, and blame), and added together the score from each scenario to come to an overall blame score. The results were the following: ambiguous mean 37.15 (13.80), accidental mean 33.8 (13.84) and total mean 71.21 (25.15). The second method found an average score for each of the 3 scales separately throughout the scenarios, and they were added together afterwards to form an overall blame score. The results with this method were: ambiguous mean 7.34 (2.76), accidental mean 6.76 (2.77) and total mean 7.12 (2.51). Discussion: This is the initial descriptive report of an ongoing study. The preliminary results are currently being analyzed and a descriptive findings of social cognition among our 23 participants will be presented and discussed further. We will also be comparing these results with those found in previous studies done on social cognition in schizophrenia. Our study is unique as it provides a report of social cognition in real world setting and compares it with those of previous studies.

#### **No. 63**

##### **Intimate Partner Violence in Saudi Arabia, Recent Trends and Call for Action**

*Poster Presenter: Fatimah Albrekkan, M.D.*

**SUMMARY:**

Intimate partner violence (IPV) is one of the most common acts of violence against women worldwide. It affects 1 to 4 women in the US, occurring in all socioeconomic, religious, and cultural groups. IPV is not widely researched in the Middle East, and Saudi Arabia is no exception. A study conducted in 2012 amongst women attending health care centers in Alexandria, Egypt, showed that 77% of women reported experiencing IPV. Another study conducted in two large cities in Jordan found that lifetime prevalence rates of emotional, physical, and sexual abuse were 39, 30, and 6%, respectively. In Saudi Arabia, IPV has recently gained national attention and is recognized as a public health and human right issue. Recent studies in Saudi Arabia reported a lifetime prevalence of IPV of 33 to 45%. However, accurate estimation of the prevalence of IPV remains problematic due to the lack of a nationwide prevalence survey and the cultural sensitivity of exploring this issue. Risk factors associated with IPV include socioeconomic status, education level, polygamy, alcohol abuse, growing up with IPV, and experiencing childhood abuse. Recently, the role of women in Saudi society has been a prominent topic of discussion, and violence against women has been penalized. In combating any forms of IPV toward any individual, Saudi Arabia's "Law of Protection from Abuse" issued in 2013 aimed to protect individuals from physical, psychological, and sexual abuse by providing immediate assistance, including accommodations, health and psychiatric care, and legal assistance to victims. The regulations impose strict fines on abusers with a minimum of \$1,330 and 30-days jail time to a maximum of \$13,300 and one-year imprisonment. During the COVID-19 pandemic, reports indicated a skyrocketing in IPV incidents worldwide. Interestingly, this trend has not been observed in Saudi Arabia. A recent study in 2021 found an overall decrease of 8.8% in the reported cases of IPV in Saudi Arabia. Women in Saudi Arabia may be afraid to report IPV incidents because of shame and fear of retaliation from their abusive partners. Measures to minimize the spread of COVID-19 like lockdowns, stay-at-home orders, and social isolation have had a tremendous impact on families experiencing IPV and might limit the reporting of IPV cases. Thus, raising awareness about IPV among

mental health professionals in Saudi Arabia, including early detection and provision of appropriate services, is vitally important. In this study, we discuss the recent trends of violence against women in Saudi Arabia and the impact of COVID-19 on reporting IPV incidents. We explore possible IPV identification and support strategies to provide avenues of safe communication with women experiencing violence.

**No. 64****Investigating the Relationship Between Adverse Childhood Experiences, Psychiatric Outcomes, and Social Determinants of Health**

*Poster Presenter: Danielle Howell*

*Co-Authors: Samuel Lim, Cathy K. Ng, M.D.*

**SUMMARY:**

Background: Adverse Childhood Experiences (ACEs) are traumatic experiences during childhood that affect individuals' long-term physical, emotional, and mental health. Studies show having 4 or more ACEs is associated with an increased risk for chronic health conditions but very little is known about how ACEs affect psychiatric outcomes. The objectives of this study are to investigate the correlation between ACEs, psychiatric outcomes, and social determinants of health. Methods: Survey responses were collected between Jan 1, 2020 and Aug 1, 2021 from 6175 patients who visited the Zucker Hillside Adult Behavioral Health Crisis Center, an adult outpatient walk-in clinic in Queens, New York. Data was not collected in June and July 2021 as clinic services transitioned during the pandemic. Patients completed ACE screening questions, the Drug Abuse Screener Test (DAST-10), Alcohol Use Disorder Identification Test (AUDIT), Patient Health Questionnaire (PHQ-9), and General Anxiety Disorder (GAD-7) screening test. ACE scores ranged from 0-10 and assessed three domains: abuse, neglect and household dysfunction. The proportion of cumulative ACE scores were calculated. For each set of patients with a given ACE score, the average DAST-10, AUDIT, PHQ-9 and GAD-7 scores were calculated. Results: The response rate to ACE surveys was 64% (n=3309). 25.8% of total respondents had an ACE score of 4 or higher (n=853; 312 men, 541 women). We found positive correlations in average

DAST ( $r^2=0.973$  for women,  $r^2=0.927$  for men), PHQ-9 ( $r^2=0.954$  for women,  $r^2=0.917$  for men) and GAD-7 ( $r^2=0.901$  for women,  $r^2=0.982$  for men) scores with respect to cumulative ACE scores in both men and women. This pattern and positive correlation also applied for AUDIT vs ACE scores in women ( $r^2=0.98$  for women), but this correlation is not as strong in men ( $r^2=0.693$  for men). Conclusion: Our study demonstrates how a history of trauma is prevalent among outpatient psychiatric patients. Screening for ACEs would improve biopsychosocial formulations and help us provide comprehensive and effective care. Our results show high ACE scores correlate with increased alcohol and substance misuse, anxiety, and depression in a dose dependent manner. Women on average have higher ACE scores than men, which is consistent with the general US population. Furthermore, our population has approximately twice the prevalence of ACEs in the general US population which may be attributed to selection bias. Future studies will evaluate how social determinants of health and patterns of intergenerational trauma interact with ACE scores, depression, anxiety and substance abuse so that we can ultimately identify and treat patients with these risk factors in a more comprehensive and effective way.

#### No. 65

##### **“It’s Complicated”: A Qualitative Pilot Study of an Innovative Fellowship for Community Workers for Complex Patients With HIV and Mental Illness**

*Poster Presenter: Sandalia Genus*

*Co-Authors: Deanna Chaukos, Maria Mylopoulos, Robert Maunder*

#### **SUMMARY:**

**Background:** Complex patients are those with more than one concurrent chronic condition – including mental illness, social vulnerability, or functional impairment – which interferes with achieving expected or desired health outcomes<sup>1,2,3</sup>. Patients admitted to hospital are ever more complex<sup>1,4,5</sup> and the medical system is not designed to address complexity<sup>2,3,6</sup>. Complex patients account for a large proportion of health care costs, and effective approaches to managing complexity are needed<sup>7</sup>. One evidence-based solution is integrated care. This

involves formalized collaborations that titrate access to case management, social services, psychiatric and primary care to specific complex populations’ needs. Integration across psychiatric, medical and psychosocial supports improves quality of patient care for these populations<sup>8,9</sup>. This qualitative study examined an aligned education and care model, whereby a community AIDS Service Organization (ASO) mental health worker was integrated into a hospital-based HIV Psychiatry clinic for a one-year clinical fellowship. The aim was two-fold – to improve training opportunities for frontline mental health workers, and integration across hospital and community to better meet the needs of the most complex patients with HIV, mental illness and other markers of psychosocial complexity. **Methods:** Through qualitative interviews and participant observation, we explored patient, physician, clinician, resident learner, and the Mental Health Clinical Fellow’s (MHCF) experience of this educational and clinical model of care. **Results:** Preliminary findings elucidate the challenges providers experience in providing care to this complex population, including facing uncertainty of diagnosis and management, not having enough time to navigate this uncertainty, or enough knowledge of resources to navigate the psychosocial difficulties of their patients. Participants described the Mental Health Clinical Fellow as solving some of these challenges. The MHCF facilitated more time dedicated to complex patients and improved opportunities for closing practice gaps for MHCF and clinic providers. There was also improved patient satisfaction and reinvigoration and optimism with work amongst clinic providers and the MHCF. Furthermore, there was increased opportunity for shared learning and evidence of the development of adaptive expertise amongst providers through these shared learning experiences. **Conclusion:** An integrated care model that involves employees from hospital and community settings created shared training opportunities for community and hospital-based clinicians. This shows promise for improving care and decreasing fragmentation.

## No. 66

### **Ketamine Infusion Therapy for the Treatment of Chronic Pain and Major Depressive Disorder in Hypermobile Ehlers-Danlos Syndrome**

*Poster Presenter: Jennifer R. Brubaker, D.O.*

*Co-Authors: Nathan Ha, M.D., Ph.D., Yun Feng, M.D., Robert Ostroff, M.D.*

#### **SUMMARY:**

**Introduction:** Hypermobile Ehlers-Danlos syndrome (hEDS) is a rare connective tissue disorder characterized by joint instability, arthralgia, fatigue, and chronic pain. The structural pathology associated with this syndrome can be associated with several psychiatric comorbidities. Ketamine infusion has gained significant attention for its use in treatment-resistant depression and suicidal ideation, and may improve outcomes in patients with refractory pain syndromes. **Material and methods:** Informed consent was obtained and pain and depression scales were administered to establish baseline scores. The patient received eight infusions of ketamine 42 mg IV in 0.9% normal saline over the span of four weeks, followed by maintenance infusions with the interventional psychiatry service. **Results:** The patient demonstrated objective improvement in pain and depression scores and required fewer oral analgesics. The patient also denied further suicidal ideation and demonstrated improved mood and affect. **Discussion:** Our results represent an important first step in identifying a versatile treatment for chronic pain, depression, and suicidal ideation secondary to hEDS. **Conclusions:** Ketamine infusions may safely and concurrently treat pain, depression, and suicidal ideation in patients with hypermobile Ehlers-Danlos syndrome in the acute setting.

## No. 67

### **Lack of Inclusion of Minorities in Recent Psilocybin Clinical Trials: A Systematic Review**

*Poster Presenter: Andrew Troy Hodge, M.D.*

*Co-Authors: Suporn Sukpraput-Braaten, Robert Strayhan*

#### **SUMMARY:**

**INTRODUCTION** Research into psychedelic compounds, such as psilocybin, to treat mental

health conditions has increased over the past several years. Although phase 2 clinical trials using psilocybin to treat depression and anxiety have been successfully conducted, the available evidence for its efficacy and safety is still sparse due to limited amounts of studies, small sample sizes, and short study durations. In addition, the ratio of minority patient populations included in these studies is often not representative of the general population. Having more robust data in this field that is more specific to minority populations would solve this issue. The purpose of this study is to evaluate the ratio of minority patient populations in recent psilocybin clinical trials. **METHODS** This study reviews published articles related to psilocybin to treat depression and anxiety found on PubMed, www.ClinicalTrials.gov, Cochrane Library, and SciELO. Boolean operator terms '((psilocybin OR mushrooms OR psychedelics OR hallucinogens) AND (depression OR anxiety))' were used. Relevant articles were screened on full text, and six clinical trials that met inclusion criteria were included. The inclusion criteria are a randomized controlled trial, not secondary analysis, adequate dosing, and the use of appropriate psychometrics. Psilocybin was administered in controlled sessions, spaced about two weeks apart. Treatment response was recorded using psychometric testing. Demographic data of the patients included in this study were analyzed using the chi-squared test to determine racial distribution. **RESULTS:** Four hundred and seventy-two articles' abstracts were reviewed. Twenty-four articles were screened in full text. Six clinical trial articles were selected based on the inclusion criteria<sup>1-6</sup>. Four studies were double-blinded randomized controlled trials<sup>2,4-5</sup>. One study used a waiting list control condition<sup>3</sup>. One study was open-label in design but was included due to the limited amounts of data<sup>1</sup>. Three trials studied patient populations with advanced-stage cancer<sup>4-6</sup>. Three other trials studied patients with moderate-to-severe depression<sup>1-3</sup>. A total of 175 patients with reported demographic data were included in these clinical trials. There were significantly more white patients (157, 90%) included in these clinical trials compared to non-white patients (19, 10%) (Chi-square value 110.4; p<0.00001). In addition, a subset of data for patients with cancer revealed significantly more white patients (74, 93%) included in the studies compared

to non-white patients (6, 7%) (Chi-square value 57.8;  $p < 0.00001$ ). **CONCLUSION:** Psilocybin continues to be heavily studied with multiple clinical trials being conducted to treat a variety of conditions beyond depression and anxiety. It would be helpful to have more robust data regarding the effects of psilocybin on minority populations so that data can be generalized better for these populations.

#### No. 68

##### **Linguistic Analysis of a Radical Acceptance Online Forum for Heavy Drinkers: Mixed Methods Study**

*Poster Presenter: Andrew J. Lustig, M.D., M.Sc.*

#### **SUMMARY:**

**Background:** Alcohol use is a major source of morbidity and mortality worldwide. Numerous adverse health outcomes are linked to alcohol use including liver disease, road injuries, violence, cancer, cardiovascular disease and suicide. The harmful use of alcohol is responsible for approximately 3 million deaths per year. Despite these risks, alcohol use is common and globally 43% of the population (2.3 billion people) are current drinkers. People drink alcohol because of perceived benefits including strengthening group cohesion, enhanced sociability, to enhance positive mood, cope with negative emotions and affiliate with others. Historically, treatment approaches to alcohol use disorder adopt either an abstinence based approach (as in alcoholic anonymous) or a harm reduction approach. Although radical acceptance has found application in other areas of psychiatry, it has not been adopted in alcohol use disorders.

**Objective:** The objective of the study was to characterize the discursive practices in an internet forum that embraces a radical acceptance approach to heavy drinking. **Methods:** We assembled a 500,000 word corpus of linguistic data from an internet forum for people who self identify as heavy drinkers. We employed a mixed methods corpus assisted discourse analysis for data analysis. This included quantitative approaches (keyword analysis and collocation analysis) and qualitative approaches (concordancing and critical discourse analysis).

**Results:** Forum contributors accomplished several social and interpersonal tasks. They constructed their identity as heavy drinkers and extensively

employed the contested term *alcoholic* to define their identity. They constructed their subject position as deviant using a variety of linguistic practices including extensive use of swear words, trading jocular insults and sharing anecdotes in which they transgressed norms and social conventions. However, they also placed firm limits on the extent of their deviance and maintained group norms by censuring those that transgressed group norms. Finally, although the group nominally embraced a radical acceptance approach, in fact the forum posts manifested a dialectical tension between acceptance and change. **Conclusions:** These data provide insight into a community of people who drink heavily and adopt an approach of radical acceptance to their drinking behavior. Although the forum nominally promoted and reinforced unhealthy alcohol consumption patterns, a critical analysis revealed that in fact acceptance and change exist in dialectical tension in this group. Further, the positive ambient affiliation of the group provides an antidote to the severe isolation afflicting many people with alcohol use disorder. Clinicians may consider stepping away from the traditional emphasis on abstinence or even harm reduction and note that acceptance and change inevitably coexist.

#### No. 69

##### **Lithium and Its Side Effects, a Case Study**

*Poster Presenter: Tyler L. Seidman, D.O.*

#### **SUMMARY:**

Lithium has been a mainstay of treatment for bipolar disorder for many years and has been very effective for many patients. However, Lithium is associated with numerous side effects, some of which can be life altering and extremely detrimental to health. This case will highlight the more severe side effects of Lithium, including Lithium induced nephrogenic diabetes insipidus, renal impairment and hyperparathyroidism in a 53 year old male with self-reported bipolar disorder. This patient presented to clinic in the Spring of 2021 on the following medication regimen: Lithium 600mg BID PO, Bupropion XL 150mg PO qam, Escitalopram 20mg PO qday, Venlafaxine XR 150mg PO qam/75mg PO qhs, Gabapentin 400mg PO QID, and Brexpiprazole 4mg PO qam/2mg PO qhs. He was initially started on

Lithium over 30 years ago after experiencing an episode of paradoxical increased agitation when he took one dose of Ativan. The patient seemed to benefit from Lithium in terms of depression symptoms so he was kept on it. Around 2011, he began experiencing some of the more severe side effects of this treatment, most notably, nephrogenic diabetes insipidus and impairment in renal function. He began seeing a nephrologist in light of these side effects but remained on Lithium for the past 9 years. He presented to clinic with polyuria and polydipsia, impairment in renal function, hyperparathyroidism with resultant kidney stones, tremor, and increased acne. After extensive review of his history with the patient and collateral information from his mother, his diagnosis was more consistent with major depressive disorder with secondary irritability rather than a cyclic mood disorder. At the time of this report, this patient has begun tapering off of Lithium and on an upward titration of Lamictal, off label, for the target symptom of irritability. Treatment goals for this patient include complete discontinuation of Lithium to avoid any further renal insult, regaining of his ability to concentrate his urine with resolution of Lithium induced nephrogenic diabetes insipidus, normalization of parathyroid stimulating hormone and secondarily normalization of calcium metabolism.

**No. 70**  
**Lithium-Induced Parkinsonism With Unilateral Tremors in a Patient With Type 1 Bipolar Disorder.**

*Poster Presenter: Seo Ho Song, D.Phil.*

*Lead Author: Sara Ratican, M.Phil.*

*Co-Authors: Ryan Pate, M.D., Gary Moak*

**SUMMARY:**

A 75-year-old male with a history of Tourette's and bipolar affective disorder (BPAD) type I was referred for evaluation of recent-onset extrapyramidal symptoms. Six months earlier ago, he developed a new unilateral resting tremor in his right hand along with difficulties in maintaining balance, penmanship, concentration, and memory. He also noted an unintended 25lbs weight loss over the past year and a half. His family history is significant for idiopathic Parkinson's disease, schizophrenia, and severe treatment resistant depression. Eight years ago, the

patient experienced his first manic episode, which was characterized by distractibility, racing thoughts, pressured speech, grandiosity, and out-of-character behaviors such as excessive spending. Following his mania, he manifested depression along with anhedonia and apathy. He was initially treated with lamotrigine and later transitioned to lithium. This resolved his mania, but he developed a resting tremor that worsened proportionally to his lithium dose. Physical examination revealed a right-sided resting tremor and mild rigidity in both upper extremities along with slow gait and reduced arm swinging on his right. Laboratory studies of serum lithium, ceruloplasmin, and thyroid stimulating hormone were not remarkable. Brain dopamine transporter scan was also unremarkable. These data were suggestive of lithium-induced parkinsonism. The patient was cross tapered from between lithium to and valproate but was returned to the former due to poor management of his mood. In this poster, we will 1) review tremor-related mechanisms of action of lithium (1) , 2) present a differential diagnosis of motor symptoms in an elderly patient diagnosed with BPAD type I (2, 3) , and 3) discuss the need to balance therapeutic efficacy of lithium with extrapyramidal side effects in the context of drug-induced parkinsonism.

**No. 71**

**Making the Implicit Explicit: An Interactive Workshop to Improve Resident Confidence in Recognizing and Addressing Bias in the Workplace**

*Poster Presenter: Brandi S. Karnes, M.D.*

**SUMMARY:**

Background: There is increasing literature regarding the ramifications of implicit bias in the workplace, including decisions on patient healthcare interventions that lead to healthcare inequities, and discrimination in evaluations and promotions of trainees and faculty that perpetuate disparities in providers of clinical care. As the importance of implicit bias, racism in medicine, and social determinants of health becomes more apparent, more research is needed regarding how to foster resident level interventions on recognizing and addressing implicit bias in the workplace. Purpose: To understand the utility of an interactive workshop



on implicit bias in residency training. **Methods:** Psychiatry residents of all training years attended a 1-hour virtual implicit bias workshop with interactive learning techniques, including in-session reflection and discussion of common cases of bias in the workplace. All residents took a pre and post session survey that evaluated the perceived pervasiveness and effects of implicit bias and their confidence in recognizing and addressing bias in the workplace. **Results:** Survey data from the sessions will be analyzed and presented, including: Increase in awareness of daily impacts of bias in the workplace Increase in understanding effects of bias Increased awareness and confidence in addressing bias in the workplace **Discussion/Conclusion:** This study demonstrated the utility of a 1-hour interactive workshop to increase resident awareness of effects of implicit bias and confidence to address instances of bias in the workplace. The most stark increase was in knowledge of how to address bias in the workplace, increasing from 14% to 85%. This interactive workshop was integrated into our wellness and inclusion curriculum, with an understanding of implicit bias being foundational to further trainee understanding of racism in mental health and structural competency. It is the aim of this workshop to foster an inclusive training environment that leads to improved patient care delivery and diminishes effects of bias in the workplace. Further studies are needed to examine the longitudinal impacts of this intervention.

#### **No. 72**

##### **Military Sexual Trauma and Combat Exposure: A Review of Mental and Physical Health Outcomes**

*Poster Presenter: York Teng, M.D.*

*Co-Author: Ricardo Caceda, M.D., Ph.D.*

#### **SUMMARY:**

**Objective** Military sexual trauma (MST) is becoming an increasingly recognized issue within the United States Armed Forces and predisposes victims to a variety of negative health outcomes. Comparatively fewer studies are available on MST as compared to combat exposure (CE) or civilian sexual trauma (CST). Our objective is to review the literature comparing the effects of MST versus CE on the development and severity of psychiatric disorders and physical

health and functional outcomes. **Methods** We searched the PubMed database for relevant studies published from 1987 to April 2021 with the search terms *military sexual trauma/assault OR MST AND combat*. Studies were included if they contained primary data measurements and directly compared outcomes related to MST and CE. Additional papers were included after reviewing the reference sections of relevant studies. **Results** The literature search yielded 29 papers. We identified six major themes of investigation with primary data comparing the impact of MST to CE. Twenty-one studies compared post-traumatic stress disorder (PTSD)-related outcomes, with an equal number of studies reporting worse PTSD-related outcomes following MST than with CE. Five out of six reports showed worse depression outcomes after MST than CE. Six out of six studies reported a stronger association of suicidal ideation (SI) with MST than with CE. MST was also associated with a higher risk of having other mental health diagnoses such as eating disorders, psychotic symptoms, and dissociative symptoms. One study examining utilization of Veterans Health Administration (VHA) services demonstrated no significant difference between the two trauma types, while the other showed that MST was associated with higher utilization. **Conclusions** MST appears to be associated with a higher risk of developing a variety of mental health problems and more severe symptomatology as compared to CE. However, those with MST may be more likely to seek VHA services.

#### **No. 73**

##### **Modified and Enhanced Electroconvulsive Therapy (Me-ECT) Protocol for Treatment-Resistant Depression: 3-Year Data**

*Poster Presenter: Chirag Sonny Arya*

*Co-Authors: Ukpere Nimtor, Basant Pradhan, M.D.*

#### **SUMMARY:**

**Background:** Electroconvulsive therapy (ECT) is the most effective intervention for Treatment-resistant depression (TRD) but can cause side effects and poses accessibility issues as traditional protocols indicate 3 sessions a week for 4 to 6 weeks. Using ultra-brief pulse and customizations to lower the seizure threshold, we have developed a modified and enhanced ECT (me-ECT) protocol that maintains

treatment efficacy while lowering side effects and ECT frequency (1-2x/week), thus reducing the cost by >50% and lowering the burden of treatment on both the patient and treatment team. These enhancements improve ECT accessibility, an important barrier for patients from lower socioeconomic status. This abstract provides the efficacy data of me-ECT in the TRD cohort. **Methods:** This is a retrospective chart review using the electronic health records for TRD patients who received treatment at the Cooper University Hospital from June 1, 2018 and September 1, 2021. A total of 22 patients (12 females and 10 males, mean age of 47) with confirmed TRD, each receiving one ECT course, were analyzed. The collected data included socio-demographical profiles, depression and cognitive scores and parameters of the ECT course. Primary outcome measures were Hamilton Depression (17-item) Scores (Ham-D17) and Montreal Cognitive Assessment (MoCA). **Results:** Out of 22 subjects, 21 were responders (95.45%) and 1 was non-responder (4.55%). Out of 21 responders, 14 were remitters (Ham-D17  $\leq$  7) and 7 were non-remitters (Ham-D17 reduction of  $\geq$ 50% but not reached the score of  $\leq$ 7). Mean number of ECTs to achieve remission in the remitters were 12.5 (SD 3.64) whereas the non-remitters needed 7.25 (SD 1.92) ECTs for  $\geq$ 50% reduction in Ham-D17 scores. In the remitters, the baseline mean Ham-D17 and MoCA scores were 28.4 (SD 1.63) and 25.5 (SD 1.12) respectively. At remission the mean Ham-D17 and MoCA scores were 5.5 (SD 1.12) and 28.75 (SD 1.48) respectively. The mean baseline Ham-D17 and MOCA scores in the non-remitters were 31.4 (SD 2.72) and 24.8 (SD 1.46), respectively. **Discussion:** In this study on TRD, me-ECT could induce remission in 14/22(63.6%) and response in 21/22 (95.45%) patients while keeping the frequency of treatment to 1-2 times per week throughout the ECT course. Compared to traditional ECT, me-ECT seems advantageous in terms of cost, accessibility, and favorable side effects profile without compromising efficacy, thus addressing the core components of the *Tripe Aims* in healthcare. **Conclusion:** As demonstrated in this study with small sample size and retrospective design, the me-ECT has comparable efficacy in TRD while lowering the cost, frequency of sessions and side effects, thus addressing some limitations of the traditional ECT.

Future studies should focus on improving the methodological limitations, effects of the psychotropic medications on seizure threshold, and identifying the biological markers (e.g. delta EEG and serum D-serine) to further guide customization.

#### No. 74

#### **Mood Stabilizer Decision Making After Lithium Induced Brugada Pattern in an Active-Duty Male Filipino With Bipolar I Disorder With Psychotic Features**

*Poster Presenter: Elizabeth Dunn*

*Co-Authors: Mary Rusher, Glennie Leshen, M.D., Amanda Ries, M.D.*

#### **SUMMARY:**

**Background/Significance:** Lithium is a mood stabilizer acting on sodium channels, which may affect cardiac conduction, used in the management of Bipolar Disorder. The presentation of Brugada Syndrome ranges from asymptomatic to sudden cardiac arrest, and has an increased prevalence in males, those of Southeast Asian descent, and patients with psychosis. Divalproex has also been shown to induce Brugada Patterns. In patients with frequent recent episodes of mania who are sensitive or at high-risk for these types of arrhythmias, there are limited medication choices for appropriate mood stabilization. **Case:** A 20-year-old Filipino male active-duty Marine with diagnosis of Bipolar I Disorder with mood-congruent psychotic features. After admission following acute decompensation with symptoms of grandiosity, decreased need for sleep, increased goal directed behavior, delusions, and thought disorganization, his lithium level was found to be 1.7. An electrocardiogram revealed ST elevations in V3 and V4, determined to be Brugada Pattern. The patient denied chest pain, syncope, palpitations, or other cardiac symptoms. Prior to this admission, he had already experienced significant transaminase elevations after a trial of Divalproex. He was started on cariprazine with significant improvement in his psychosis as the patient had been trialed on olanzapine and aripiprazole with noted adverse effects. However, as cariprazine uses the CYP3A4 pathway, this medication was stopped in favor of starting carbamazepine, which induces CYP3A4, for mood stabilization. **Discussion:** Brugada

Syndrome is an autosomal dominant condition with clinical manifestations that can include syncope, cardiac arrest, and sudden cardiac death. Many patients are asymptomatic. Certain patients, such as this male of Southeast Asian descent with psychosis, are more vulnerable to the possible drug-induced unmasking of Brugada Syndrome. Still symptomatic, requiring multiple inpatient psychiatric hospitalizations for mania with psychosis, the patient was started on carbamazepine. While carbamazepine has a much lower risk of inducing a Brugada Pattern, it does have the potential to affect the levels and metabolism of multiple antipsychotics. **Conclusion/Implications:** Psychotropic medications, including the mood stabilizer lithium, have the potential to induce Brugada Patterns. Brugada Syndrome presents heterogeneously and can cause severe and potentially lethal arrhythmias in asymptomatic patients. Given the unpredictability of Brugada Syndrome, it may be beneficial to perform a screening ECG prior to starting mood stabilizers in populations with a higher genetic susceptibility.

#### **No. 75**

##### **New Onset Capgras and Cotard Delusions in Schizoaffective Disorder**

*Poster Presenter: Samantha Ongchuan Martin, M.D.*

*Co-Author: Sahil Munjal, M.D.*

##### **SUMMARY:**

**Background:** Cotard is a syndrome characterized by ideas of damnation or rejection, anxious melancholia, and nihilistic delusions concerning one's own body or existence. Capgras is a syndrome in which the patient believes that the identities of close relatives or friends are replaced by others[1]. Capgras and Cotard delusion are rarely reported in one individual simultaneously which we will describe in this poster. **Case Report:** DD is a 38 year old female with history of schizoaffective disorder, bipolar type, PTSD, and reported TBI who presented to the ED exhibiting paranoia and delusions in the setting of medication non-adherence and increased psychosocial stressors. She endorsed her organs were rotting, and that she was stolen by imposters who claim to be her family from birth. Chart review revealed previous hospitalizations involving mania

and paranoid delusions, however, these Cotard and Capgras delusions were new. She also had reported TBI injury from domestic abuse, as well as emotional and sexual trauma. Her Cotard delusions resolved with risperidone 6 mg daily and valproic acid 500 mg BID, however her Capgras delusions were maintained after 22 days of inpatient hospitalization. On discharge, she continued to refuse reconnecting with her family and was subsequently set up with an intensive outpatient program. **Discussion:** Cotard and Capgras delusions are considered to reflect different interpretations of similar anomalous experiences. The persecutory delusions and suspiciousness often noted in Capgras contribute to the patient's mistaking a change in themselves for a change in others, whereas people who are depressed in Cotard exaggerate the negative effects of the same change whilst attributing it to themselves. Although these two delusions are phenomenally distinct, they may therefore represent attempts to make sense of fundamentally similar experiences[2]. The anatomical origin of these disorders have been reported to be from a disconnection between the temporal cortex and the limbic system as described in a patient with ischemic stroke[3]. DD's PTSD and TBI with possible damage to her left tempoparietal lobe may have predisposed her to comorbid delusions. Although DD's Cotard delusions abated with antipsychotic treatment, her Capgras delusions were maintained. Recently losing custody of children may have contributed to the depression that precipitated her Cotard subtype 1 delusion. Her response to risperidone is consistent with a previous case report that highlighted the effectiveness of antipsychotics in the absence of ECT with Cotard delusion[4]. In regards to her ongoing Capgras delusion, the chronic abuse by DD's family may have led to a more persistent psychodynamically meaningful negation of DD's sense of relationship to her family. **Conclusion:** Capgras and Cotard syndromes though rare can present together. Additional studies are needed to understand the pathophysiology and treatment outcomes

#### **No. 76**

##### **NMS With First Dose of Antipsychotic**

*Poster Presenter: Maeve Greenberg, M.D.*

**SUMMARY:**

X was a 25y M with PPH of major depressive disorder and generalized anxiety, without history of psychosis, antipsychotic use or psychiatric hospitalizations, who presented to the emergency room for 48 hours of “odd behavior” at home, including running sinks and tubs until a bathroom flooded, mutism, and pacing the house naked. In the ED, X received versed 4mg IV, and haldol 5mg IM and shortly after, thorazine 50mg IM for aggression. Utox showed positive cannabinoids and benzodiazepines. Psychiatry was consulted for psychosis, and after evaluation, recommended neurologic evaluation for underlying organic etiology given first episode and acute onset of psychotic symptoms. The patient was in the ED overnight, and on re-evaluation the following day, was found to be diffusely rigid, febrile, with altered mental status and unable to participate in evaluation. CK was drawn and found to be 5,856 (up from 64 on presentation) and WBC count 15.5 (up from 11.6 on presentation). X was started on dantrolene and admitted to ICU for management of presumed NMS and to also rule out other potentially life threatening conditions, such as infectious meningitis. In this poster, we will review NMS, risk factors for its development and highlight the possibility, although uncommon, of it's occurrence even after the first dose of an antipsychotic.

**No. 77****Once Monthly Fluphenazine Decanoate for Maintenance Treatment in Schizophrenia**

*Poster Presenter: Susan Gail Kahane-Pierre, M.D.*

*Co-Author: Anna Klimowicz, D.O.*

**SUMMARY:**

Long-acting injections are often effective at preventing psychiatric hospitalizations in patients with schizophrenia. As studies have suggested that fluphenazine decanoate given every 4 to 6 weeks is effective for maintenance treatment in schizophrenia, we regularly decrease the frequency of fluphenazine decanoate injections in patients stable on every 2 week injections to every 4 or 5 weeks. Here, we will review seven cases, five which went well, one which had an indeterminate outcome, and one which was associated with a

hospitalization. Decreasing the frequency of fluphenazine injections was generally well-tolerated. We recommend that a switch from 25mg q2 weeks to 50mg q4 weeks, once a patient has reached steady state, need not be gradual. On the other hand, changes involving decreased total monthly exposure to fluphenazine should be made more gradually, if there is no pressing need. When decreasing the total cumulative exposure to fluphenazine decanoate, we recommend small changes (i.e. extending the duration between injections by 1 week more) followed by time for monitoring and to reach steady state. Factors associated with worse outcomes in our case series were a relatively low dose of fluphenazine with a 6 week interval (25mg q6 weeks was associated with a hospitalization while 50mg q5 to 6 weeks was most often not) and active delusional ideation at baseline in the context of a switch to every 6 week injections. On the other hand, a patient with baseline illogical thought process and another who reported some occasional voices he is able to cope with did well with every 4 or 5 week injections. From our review, it appears that most patients who have been on fluphenazine decanoate every 2 weeks for years tolerate 50mg every 4 or 5 weeks, and it appeared that lower doses every 4 weeks can also be effective. We recommend a gradual decrease in frequency, if total monthly exposure to fluphenazine is being decreased. For patients with very active delusional ideation, a decreased frequency to every 6 weeks could be problematic.

**No. 78****One-Year Incidence Rate of Treatment-Resistant Depression and Treatment Characterization in China, a Retrospective Cohort Study Using Real World Data**

*Poster Presenter: Sijia Dong*

*Co-Authors: Ao Liu, Hong Qiu, Wentian Dong, Tianmei Si*

**SUMMARY:**

Introduction The burden of Major Depressive Disorder (MDD) is high globally. Patients who do not respond adequately to antidepressant treatment are considered to have Treatment Resistant Depression (TRD). However, little is known about TRD incidence

and treatment characteristics in China, posing a major challenge in MDD management among Chinese patients. Objectives To estimate 1-year TRD incidence rate among pharmaceutically treated Chinese MDD patients and to describe the treatment characteristics among TRD/non-TRD patients in China. Method: This is a retrospective cohort study using patient-level electronic health records (EHR) data from one of the major mental health hospitals in China. MDD patients (age 18-65) who initiated pharmaceutical treatment during 2010-2018 were included in the study cohort and were followed up for 1 year from cohort entry or upon treatment discontinuation (more than 120 days without treatment). TRD was defined by commonly accepted clinical definition as failure to respond to at least two prior adequate (at least 4 weeks in duration) treatment regimens. Both antidepressants (AD) and antipsychotics (AP) were considered since AP is commonly used as augmentation to improve depressive symptoms in practice; a regimen was considered as failed when a different regimen followed (with either drug substitution or add-on) after the first regimen was administered. Results: This study included 12257 eligible MDD patients (mean age=40.8, 63.6% female), the 1-year incidence rate of TRD among MDD patients was estimated to be 5.2% (n=633, mean age=40.9, 62.7% female), with average time-to-TRD of 186.7 (median: 181.0) days. In TRD patients, the mean treatment duration was 302.5 (median: 364) days, regimen changed 2.6 (median: 3) times on average and the length of initial regimen was 50.3 (median: 42) days. In non-TRD patients, the mean treatment duration was 228.8 (median: 205) days, regimen changed 0.2 (median: 0) times on average and the length of initial regimen was 128.5 (median: 103) days. Selective Serotonin Reuptake Inhibitors (SSRIs) were the most commonly prescribed AD in both group (TRD: 79.6%, non-TRD: 71.2%), followed by Noradrenergic and Specific Serotonergic Antidepressants (NaSSA) (47.7% vs.21.6%). The proportion of patients ever prescribed antipsychotics was 53.2% for TRD patients and 12.0% for non-TRD patients. Furthermore, 8.3% of non-TRD patients had combination regimen at initial therapy, whereas 21.7%, 68.1% and 40.8% of TRD patients had combination therapy at the first 3 regimens, respectively. Conclusions: This study estimated the

1-year TRD incidence rate of 5.2% among pharmaceutically treated MDD patients using EHR from one of the largest regional mental health hospitals in China. Prolonged treatment duration, shorter initial regimen, frequent changes in regimen as well as more combination regimens were observed among patients with TRD. This study may inform future studies in improving TRD patient management.

#### **No. 79**

#### **Opportunities for Recognizing Patients at Risk for First-Episode Psychosis in the Emergency**

#### **Department: A Retrospective Chart Review**

*Poster Presenter: Karoliina Yang*

*Co-Author: Fabiano Nery, M.D., Ph.D.*

#### **SUMMARY:**

**Introduction:** Early intervention studies in schizophrenia demonstrate that many patients experiencing initial presentation of psychotic symptoms primarily seek care through non-psychiatric medical services, and that shortening the duration of untreated psychotic symptoms is crucial to improving patient outcomes. To identify opportunities for improved early psychosis risk screening and tracking pathways of care prior to hospitalization, this study aimed to describe the demographic and clinical characteristics of patients presenting to a large university teaching hospital.

**Methods:** A retrospective electronic chart review in Epic was conducted to identify patients hospitalized with FEP at a Cincinnati-based hospital system between January 2019 to July 2021. FEP cases were identified using a provider order set, and were manually reviewed to ensure eligibility. Inclusion criteria were: 18-65 years of age with onset of psychotic symptoms in the prior 2 years before index hospitalization. Exclusion criterion was psychosis secondary to substance use or another medical condition. Study variables obtained included patient age, sex, race/ethnicity, prior psychiatric diagnoses, prior medication use, prior psychiatric outpatient visits, prior psychiatric hospitalizations, and prior total visits to the emergency department (ED).

**Results:** A total of 138 patients were identified and included in this study (mean age $\pm$ S.D.=27 $\pm$ 9.9 year old, 95 (66%) male, 87 (60%) Black or African

Americans, 42 (30%) Caucasians, 14 (8%) other races). Prior to the index hospitalization, 62 (45%) patients had a psychiatric diagnosis and 42 (30%) patients had history of psychiatric medication use. Eighty-three (60%) patients had at least one prior ED visit, and 28 (20%) patients had at least one prior psychiatric hospitalization. Patients with prior ED visits did not differ from patients without prior ED visits on age ( $p=0.74$ ) and sex distribution ( $p=0.73$ ). They were more likely to be Black or African American ( $p=0.07$ ), to have a prior diagnosis of depressive ( $p=0.001$ ), anxiety ( $p<0.001$ ), substance use ( $p<0.001$ ), or psychotic disorders ( $p<0.001$ ), or been prescribed antipsychotics ( $p<0.001$ ), benzodiazepines ( $p=0.005$ ), or anticonvulsants ( $p=0.001$ ) compared with those patients who did not visit the ED prior to their first hospitalization for an FEP. A logistic regression model showed that prior diagnosis of substance use disorder had the strongest association with prior visits to ED (OR: 26.4,  $p=0.003$ ). **Conclusions:** The frequent presentation to ED services prior to hospitalization for an FEP might indicate help-seeking behavior due to prodromal symptoms or to commonly associated conditions, such as substance use disorders. Our results suggest that ED services could be prioritized as a setting for screening of early psychotic symptoms and associated risk factors for those without established psychiatric care, which may enable improved triage of patients for early psychosis intervention.

#### **No. 80**

##### **Oscillating Texas Law Contributing to Suicidality in Pregnant Woman During Covid-19 Pandemic**

*Poster Presenter: Kimberly Rae Evans, M.D.*

*Co-Author: Jason Miller, D.O.*

##### **SUMMARY:**

Ms B, a 31-year-old homeless woman with past psychiatric history of schizoaffective disorder and polysubstance use, voiced suicidality after learning she was 7-10 weeks pregnant, stating she would rather kill herself than raise a baby on the streets. Frequent changes regarding abortions during Spring 2020 complicated her access to medical care. Hospital visitor restrictions and social service closures limited alternative options. She discharged

from the hospital with a plan to seek an abortion in Texas, but could not due to Executive Order GA-09. After two suicide attempts, she was re-hospitalized. She received limited information about adoption services and was lost to follow up. The Covid-19 pandemic changed healthcare delivery, leading to medical care restrictions. For Texans, abortions dropped 38% in-state and increased 784% out-of-state for April 2020 compared to recent years. Adoptions were hampered by limited counseling, restrictions on hospital visitors and courtroom closures. Covid-19 revealed fragilities in an already inequitable healthcare system. It particularly impacted individuals of low socioeconomic status in states restricting access to services. Understanding how these changes affected pregnant women in Texas can lead to further discussions of how to address failures in the current system to improve the delivery of equitable care in the future. In this poster, we discuss the challenges of addressing conditional suicidality when the means to address the condition are limited by poor and variable access to resources.

#### **No. 81**

##### **Outcomes Associated With Individual Antipsychotic Agents Initiated in Inpatients Newly Diagnosed With Schizophrenia**

*Poster Presenter: Shaina E. Schwartz, Pharm.D.*

*Co-Authors: Colton Troxler, Samantha Toscano, Archana Kumar, M.D.*

##### **SUMMARY:**

**Background:** Antipsychotic medications are recommended as first line therapy for the treatment of schizophrenia, but there is limited guidance on choosing between available agents. There is even less known about preferred treatment in first-episode schizophrenia, which is a critical time to establish patients on appropriate therapy. The aim of this study is to profile the antipsychotic medications initiated in patients newly diagnosed with schizophrenia at a behavioral health (BH) hospital to better understand current practice patterns and potential avenues to optimize care in this population. **Methods:** A retrospective review of medical records was performed for hospitalized patients newly diagnosed with schizophrenia over a

5-year period (10/1/2015-2/6/2020). Information collected included antipsychotic medication prescribed for continuation upon discharge, readmission rate at 6 months and 1 year post-discharge, and total number of BH encounters within 1 year post-discharge. Independent t-testing and Chi-square testing was used to analyze for between-group differences. **Results:** A total of 436 patients were included in the study, consisting of 301 males (69.0%) and 135 females (31.0%) with a mean age of 39.9 +/- 13.4 years. The most common antipsychotic medications prescribed were haloperidol (21.1%), aripiprazole (20.0%), risperidone (19.0%), olanzapine (14.7%), quetiapine (11.2%), and paliperidone (10.3%). Approximately one-third of agents (30.6%) were first generation antipsychotics and two-thirds (69.4%) were second generation antipsychotics. The use of haloperidol was associated with significantly fewer mean BH encounters within 1 year post-discharge (1.3 +/- 1.8 vs 2.1 +/- 4.8,  $p = 0.014$ ). No individual agents were associated with significantly greater odds of readmission at 6 months, though olanzapine decreased the likelihood of this outcome by nearly half (OR = 0.54,  $p = 0.077$ ). Similarly, there were no agents that significantly reduced the odds of a BH encounter within the 1 year follow up period, but risperidone was associated with the lowest risk (OR = 0.63,  $p = 0.064$ ). **Conclusion:** Most patients in this study were prescribed second generation antipsychotics when hospitalized for newly diagnosed schizophrenia, yet haloperidol was the most common agent used and was associated with significantly fewer BH encounters in the subsequent year. Risperidone and olanzapine were also frequently prescribed and appear to have some benefit in reducing readmissions at 6 months and 1 year post-discharge. These findings can be used to inform further study of the most appropriate antipsychotic treatment options for patients newly diagnosed with schizophrenia.

## No. 82

### **Overlap Between Neuroleptic-Induced Catatonia and Super Sensitivity Psychosis: A Case Report**

*Poster Presenter: Omar Elmarasi, M.D.*

*Co-Author: Tauhid Zaman, M.D.*

## **SUMMARY:**

**Introduction:** Catatonia is known as a psychomotor syndrome that is predominantly seen among patients with mood and psychotic disorders. Despite the occasional use of antipsychotics for the treatment of catatonia, it occasionally results in worsening of catatonia and psychosis. Neuroleptic induced supersensitivity psychosis is the tendency toward psychotic relapse among patients receiving antipsychotics in association with the emergence of motor dyskinesia. A similar theory can be implicated with the use of antipsychotics in the treatment of catatonia, leading to worsening of symptoms. We describe a case of a patient with bipolar disorder who presented with worsening of depression, catatonia and EPS while being treated with quetiapine. Both psychotic symptoms, catatonia and EPS improved upon dose reduction of quetiapine.

**Case Report:** A 72-year-old female with psychiatric history of bipolar disorder, previously maintained on quetiapine 300 mg, presented with worsening symptoms of depression, paranoia, and catatonic features. She presented with withdrawal, negativism, mutism, staring, ambitendency and paranoia. She also had bradykinesia, mask face, rigidity, and notable shuffling gait, raising the concern about parkinsonism. Quetiapine was reduced to 150 mg and fluoxetine 10 mg daily was started for the treatment of depression. Her catatonic symptoms, depression, and psychosis improved. Subsequently, Seroquel was discontinued and lorazepam was started and increased gradually to 1 mg bid. Olanzapine 5 mg was added with further improvement of catatonia and psychosis. **Discussion:** Dopamine supersensitivity psychosis is an observed phenomena when there is rebound psychosis occurring in association with movement disorders among patients receiving antipsychotics. It is proposed to occur due to the upregulation of D2 receptors and enhanced receptor affinity, which lead to tolerance of antipsychotics. Catatonia might occasionally be treated with antipsychotics. However, some reports described worsening of catatonia and psychosis when antipsychotics are used. Cases of neuroleptic-induced catatonia have been described with a presentation of Parkinsonism. In these cases, when antipsychotics were reduced or discontinued, symptoms were alleviated. The mechanism is unclear but a proposed mechanism is

through dopamine blockade and decreased GABA in the striatum and substantia nigra. Our patient was maintained on quetiapine for many years and subsequently developed worsening of her psychotic symptoms with emergence of catatonia. Significant improvement of psychosis and catatonia was noticed following quetiapine dose reduction. Conclusion: 1. Dopamine supersensitivity psychosis can emerge during the treatment with antipsychotics leading to worsening of psychosis in association with motor disorders 2. Antipsychotics can worsen catatonia and psychosis 3. Reducing or discontinuing antipsychotics can result in catatonia and psychosis improvement among this population

#### **No. 83**

##### **Poetry Workshop in the Acute Inpatient Psychiatric Setting: Feasible, Acceptable, and Significantly Beneficial**

*Poster Presenter: Jane Thomas-Tran, B.A.*

*Co-Authors: Emily Thomas-Tran, B.A., Katherine Eisen, Ph.D., Daniel Mason, M.D.*

#### **SUMMARY:**

*Objective:* We investigated the feasibility and acceptability of establishing a therapeutic poetry writing workshop in an acute inpatient psychiatric setting, as well as the impact of participation on measures of mood, hope, and recovery orientation. *Methods:* Participants were recruited from the inpatient psychiatric units of an academic medical center. As a pre/post measure of effect of the poetry intervention, participants completed the Herth Hope Index (HHI) and the Mental Health Confidence Scale (MHCS) at baseline and follow-up, as well as a Brief Mood Survey (BMS) immediately before and after each instance of participation in the poetry workshop. Student's t-tests were used to assess for changes on HHI, MHCS, and BMS. Workshop participants also optionally completed a satisfaction survey of their qualitative experience of the group. The protocol for leading a workshop is described in detail. *Results:* There was a statistically significant improvement in multiple subscales of mood according to the pre- and post-measures on the BMS. Results of the HHI indicated a non-significant trend toward increased hopefulness. Results of the MHCS showed statistically significant improvement

in participants' confidence in managing day-to-day life with a mental illness. Results of satisfaction surveys indicate that participants had an overwhelmingly positive experience of the group. *Conclusions and Implications for Practice:* Workshops designed to foster writing and sharing poetry in a group format are likely to be clinically helpful to improve mood for patients in an acute inpatient psychiatric setting. Future research may examine the adaptability of this intervention for outpatient and virtual settings.

#### **No. 84**

##### **Post-Abortion Mania: A Unique Case Report**

*Poster Presenter: Sukaina Rizvi, M.D.*

*Co-Authors: Shavonne Flavaney, Zaineb Khawar*

#### **SUMMARY:**

Amongst current literature, there is limited research regarding the correlation between elective abortion and psychiatric disorders. Studies generally report postpartum psychiatric conditions in the setting of live births and stillbirths, which forgoes the population of women who undergo an elective abortion and the impact this takes on their psychiatric health. The link between the incidence of mania or psychotic symptoms in the presence of an elective abortion is vastly understudied. Limited research has proposed theories including hormonal, immunologic, and circadian rhythm considerations to explain the relationship between abortion and the psychopathology of bipolar disorder. There is a clear need to explore the psychopathology of psychiatric conditions following an elective abortion. Therefore, this case report regarding an adolescent female with a history of depression, cannabis use, and one prior inpatient psychiatric hospitalization for depression and suicidal ideation who presented with manic symptoms in the setting of the recent psychosocial stressor of an elective abortion is imperative to investigate and apply to the current proposed theories. This case report highlights an under investigated psychopathology of bipolar disorder in a thoughtful, multidimensional manner, which is crucial for clinician awareness in order to provide individualized interventions and psychiatric support for women who undergo spontaneous or induced abortion.



**No. 85****Post-COVID-19 Psychosis as a Suspected  
Complication of Recovery From COVID-19 Infection**

*Poster Presenter: Kireet Koganti*

**SUMMARY:**

Case Report: Mr. A, a 32 year-old male with no past psychiatric history presents with a 10-day history of worsening erratic behavior, auditory hallucinations, and delusions of persecution and hyperreligiosity. He was a sporadic user of marijuana, had no personal history of prodromal symptoms of schizophrenia or family history of psychotic illness, and was previously a high-functioning, full-time employed individual. Prior to presentation, the patient was diagnosed with COVID-19 and admitted 5 days later, receiving treatment with remdesivir and dexamethasone. After a 1-week course, he was discharged home. 17 days following his COVID-19 diagnosis, the patient began experiencing auditory hallucinations, increasing paranoia, behavioral dysregulation and bizarre behaviors, including head banging and lying outside naked. On day 27 post-diagnosis, EMS was called and the patient became combative and was tased by police before being admitted. His labs revealed opiates and cannabinoids on urine drug screen, an undetectable blood alcohol level, normal EEG, unremarkable head CT, and a negative CSF panel. When seen by the psychiatric consult service, the patient was in restraints, tangential, responding to internal stimuli and burst into a spiritual song, proclaiming that he was the "Lamb of God " and that hospital staff were working with "The Devil". Olanzapine was titrated to a daily dose of 15 milligrams and the patient experienced remission of psychosis after 3 days (30 days post-diagnosis); he was discharged with this dose of olanzapine and scheduled to follow-up with an outpatient psychiatrist. Discussion: Infection with COVID-19 has been associated with a wide range of neuropsychiatric complications, including anxiety, depression, memory impairment, insomnia, PTSD, and psychosis<sup>1</sup>. Few studies have reported new-onset psychosis in patients with an active COVID-19 infection, and even fewer have discovered new-onset psychosis following recovery from COVID-19. One study found that in 23 patients with altered

mental status following COVID-19 infection, 10 had new-onset psychosis<sup>2</sup>. A retrospective study described 9 patients who developed psychosis at least 2 weeks after having physical symptoms from COVID-19– all patients presented with delusions, attention disturbances, and hallucinations and experienced remission with antipsychotic therapy<sup>3</sup>. Another case report described a woman who developed delusions and hallucinations for 40 days following COVID-19 infection and improved with risperidone<sup>4</sup>. With regards to our patient, new-onset psychosis following recovery from COVID-19 infection is rare and not well-defined in the literature. In this poster, we discuss the importance of considering post-COVID-19 psychosis as a cause of new-onset psychosis. Secondly, we emphasize that new-onset psychosis following COVID-19 infection should be treated in the same manner as primary psychotic disorders, although the duration of treatment is still unknown.

**No. 86****Predicting the Effect of Antidepressant Treatments  
on Anxiety Symptoms Relief**

*Poster Presenter: Amit Spinrad*

*Co-Authors: Dekel Taliaz, Roni Zoller*

**SUMMARY:**

Background: Depression and anxiety disorders are among the most prevalent forms of mental illness. Comorbidity between these disorders is very common, and increasingly so due to the consequences of the COVID-19 pandemic (Palgi et al., 2020), with antidepressants frequently used to treat it. Unfortunately, prescription of antidepressant medication is often inexact and heavily relies on a trial-and-error approach (Perlis, 2016). In fact, the first antidepressant might be beneficial in only 50% to 60% of cases (Sinyor, Schaffer, & Levitt, 2010). Using machine Learning (ML) algorithms on readily obtainable clinical and demographic data of 987 individuals diagnosed with depression with anxiety symptoms, we hypothesized that we will be able to derive models which predict treatment response and enable a more accurate treatment selection, focusing on patients' relief from anxiety symptoms. Methods: Patients' data from the Sequenced Treatment Alternatives to Relieve

Depression (START\*D) were filtered to include only those patients who suffer from depression with anxiety symptoms. This was done based on the Anxiety/Somatization factor, which is described by Rush et al. (Mcclintock et al., 2011). Using this dataset, we first analyzed the patients' response patterns, focusing on their anxious symptomology. Then, a feature selection algorithm was applied, to select the most predictive features for anxiety symptoms' relief. Finally, we trained three ML models for three different antidepressants: Citalopram (CIT), Sertraline (SER) and Venlafaxine (VEN) using a training set of participants, and then validated them on naïve validation and test datasets. These ML models were then compiled to create an ensemble predictive algorithm. **Results:** Validating the algorithm on 30% of the data which were set aside in the beginning of the algorithm generation process, i.e. - the validation and test sets, our trained algorithm achieved a balanced accuracy of 64.8% ( $p < 0.001$ ), 79.2% ( $p < 0.001$ ) and 78.03% ( $p < 0.001$ ) for CIT, SER and VEN, respectively. Furthermore, the models achieved positive predictive value of 69.4%, 83.3% and 76.9%, respectively. **Conclusion:** Our findings support applying ML to accumulating combinatorial data derived from large studies to achieve a much-needed improvement in the treatment of mood disorders. The algorithm we developed may be used as a tool to aid in the choice of antidepressant medication, specifically for depressed patients who exhibit prominent anxiety symptoms.

#### **No. 87**

##### **Prevalence and Outcomes of the Use of Telemedicine for Psychiatry Patients in the Outpatient Setting**

*Poster Presenter: Amberly Ray*

*Lead Author: Maria Ruiza Yee, M.D.*

#### **SUMMARY:**

Although Telemedicine has been used in the field of Psychiatry for some years now, the COVID-19 Pandemic has led to an increased utilization of telemedicine for outpatient services. With this surge in telepsychiatry utilization, it is important to study the effectiveness of this virtual modality. In order to determine if telemedicine visits were effective in

keeping psychiatric patients stable, a retrospective study was performed at Towert Health Reading Hospital Outpatient Behavioral Health using the OQ45.2/YOQ30 assessment tool, which assesses patient reported outcomes across areas of functioning. In order to qualify for this study, patients needed at least two OQ scores with one being prior to the onset of telepsychiatry care and one being after returning to in-person care. Only 33% of the patient population qualified for the study. Patients' OQ score prior to the onset of telepsychiatry care was subtracted from their first OQ score after returning to in-person care to determine their improvement. Results indicated that 51.1% of adults ( $n=176$ ) improved or remained the same, whereas 48.8% deteriorated. Results indicated that 50.0% of youth ( $n=22$ ) improved or remained the same, whereas 50% deteriorated. It is important to note that this study was conducted during the COVID-19 Pandemic, where, naturally, many individuals were facing hardships; therefore, to improve or remain the same during the pandemic is still an accomplishment. There were no significant differences in OQ scores between gender, ethnicity, adult age groups, nor number of visits. There were significant differences in adult OQ scores between payer types, and youth OQ scores between race; however, it is speculated that this result is skewed because the sample is not truly representative of the entire patient population since 61.9% of the adult sample had private insurance and only 22 youth qualified for the study. Further research with a larger sample size of qualifying patients is warranted.

#### **No. 88**

##### **Prevalence and Risk Factors of Depression, Anxiety, and Stress in Adult College Students Using Depression, Anxiety, and Stress Scale-21 (DASS-21)**

*Poster Presenter: Ruby Jade Lee-Cheng*

#### **SUMMARY:**

Background. Mental health of college population is becoming an alarming concern. University students may experience mental health problems due to new responsibilities, academic factors, and social adjustments. Depression, Anxiety, and Stress Scale-21 (DASS-21) is a self-report tool to measure depression, anxiety, and stress. There is a need to

find out the factors that may contribute to poor mental health in students. **Objective.** The study aims to determine the prevalence and risk factors of depression, anxiety, and stress among adult college students aged 18 years and above. **Methodology.** This study utilized a cross-sectional design that is descriptive and analytic. Data is obtained from college students and stratified random sample was done. They have answered the Socio-demographic Questionnaire and DASS-21. **Results.** The prevalence of depression, anxiety and stress among college students are 35.77%, 48.46%, and 13.46%, respectively. The factors that have an association with depression are age, sexual orientation, family history of anxiety, living situation, and academic situation. For anxiety, the factors that have an association are age, College of Arts and Science, family history of depression and anxiety, living situation, and academic situation. The only factor associated with stress is having a family history of anxiety. **Conclusion.** These results are essential in finding out the dominant issues that students are experiencing given the sociodemographic profile of the students. These are crucial in mental health interventions in university so as to promote engagement in students and effectiveness.

#### No. 89

##### **Prevalence of Anxiety Among COVID-19 Patients During the Acute Versus Post Symptomatic Window**

*Poster Presenter: Philip Wang, B.S.*

*Co-Authors: Precious Chiedozie Oyem, Adele Casals Viguera, M.D., M.P.H., Matthew Nagy, M.P.H.*

#### **SUMMARY:**

**Background:** The outbreak of the novel coronavirus disease 2019 (COVID-19) has been linked to increased rates of anxiety, depression, and stress. While several studies have assessed the increased psychological distress brought on by the COVID-19 pandemic among those infected as well as front-line caregivers, few studies have examined the prevalence of anxiety among those who received a positive COVID-19 test. **Objective:** The objective of this cross-sectional study was to describe the prevalence of anxiety in COVID-19 patients within and after the symptomatic 14-day window. **Methods:** This study included all COVID-19 positive

patients in the Cleveland Clinic Health System between March 21, 2020, and November 12, 2020, who were also screened for anxiety using the Generalized Anxiety Disorder 2-item (GAD-2) scale. A cut-off score of = 3 on the GAD-2 score was used to identify possible cases of anxiety. **Results:** 206 patients had a complete GAD-2 score and were included in the study. Individuals reported significantly higher levels of anxiety acutely as defined by within 14 days of testing positive from COVID-19 (56.8 %) compared to the post-symptomatic window with the mean duration of 61 days (SD = 53). (36.0%,  $p = 0.02$ ). However, after adjusting for age, gender, and race using multivariable logistic regression, we found no difference in the prevalence of anxiety during the acute and post-symptomatic period. Patients who were younger (OR: 1.04, 95% CI: 1.02, 1.06) and female (OR: 3.00, 95% CI: 1.41, 6.79) were more likely to screen positive for anxiety. **Conclusion:** Our findings indicate a high prevalence of anxiety among COVID-19 patients in both the acute and post-symptomatic period. Adjusting for other variables revealed no difference in anxiety between both periods. Female and younger patients had the greatest odds of anxiety especially during both the acute and post-symptomatic period.

#### No. 90

##### **Psychiatry Resident Termination of Patient Care at Completion of Residency: A Prospective Survey Study of Residency Directors and Program Preparation**

*Poster Presenter: Karim Ghobrial-Sedky*

*Lead Author: Chris Ferry*

#### **SUMMARY:**

**INTRODUCTION** Psychiatry residents are responsible for managing the termination and/or transfer of their patients care prior to graduation and/or extended elective time. While this process presents with inherent logistical challenges, it can also present with emotional burden to the resident and patient alike. However, despite this reality, there remains little empirical evidence/discussion characterizing effective means/best practices to help navigate this process. **OBJECTIVE** Survey psychiatry residency program directors (PDs) to determine

if/how they prepare their graduating residents (and/or residents transitioning to extended elective time) for the year-end process of patient care termination/transfer. **METHODS** A prospective email survey study of psychiatry residency PDs was performed. Institutional Review Board committee review was performed prior to initiation. PDs were identified via the Electronic Residency Application Service website. Individual emails were then obtained via search of their respective program/institutional websites. Surveys were distributed via email with a survey link. All surveys were collected anonymously. Survey questions focused on understanding the prevalence and/or nature of training within programs. **RESULTS** A total of 260 PDs were solicited. At time of report, 41 completed surveys had been received. Thirty-two PDs (78.0%) indicated that their program offers formal/dedicated training for the transition/termination of care process. Of those 32 programs, the nature/type of training included: lectures (62.5%), group discussion with faculty (78.1%), group discussion amongst residents (25.0%), and 1-on-1 guidance/discussion with faculty/attending (87.5%). Specific topics covered included: care logistics (87.5%), how to manage difficult situations (90.6%), how to identify at-risk patients (93.8%), emotions that residents may experience (84.4%), and Other: 'gifts' (3.1%). Approximately half of PDs (53.1%) indicated a desire for additional time devoted to preparing for the transition/termination process. The majority of programs (90.6%) do not perform any formal assessment of training effectiveness/utility. Of those programs that do not offer formal training, reasons included: never discussed within department (11.1%), currently developing training (44.4%), time constraints (11.1%), lack of standardized training content available (11.1%), concerns are addressed on an individual level (44.4%), and Other: 'expected part of supervisory relationship' (11.1%). **CONCLUSIONS** Formal/dedicated training for the transition/termination of patient care process appears relatively common amongst programs/PDs, with apparent diversity in style of delivery and topics covered. However, there remains a desire for additional time dedicated to this process/processes, as well as a need for further empiric evidence/literature addressing this topic.

## No. 91

### Psychosis Linked to Kratom: A Case Study

Poster Presenter: Salwa Ghulam Mustafa Sadiq-Ali

#### SUMMARY:

**Introduction** Kratom is a tropical plant indigenous to Southeast Asia and Africa that has widely been used in herbal medicine. Recently, kratom has gained popularity as a drug of abuse due its effect on opioid receptors. Existing evidence draws a relationship between pharmacological properties and presenting medical and psychiatric conditions including psychosis with the first known case documented in 1957. Despite this, the relationship between Kratom and psychosis has not been extensively studied and remains unclear. Case reports of patients experiencing psychosis following Kratom use are also few as evidenced by a PubMed search for case reports using the key words "Kratom" and "psychosis" resulting in three cases. This case report outlines the psychiatric evaluation of a patient after kratom use resulting in a psychotic episode thereby adding to the growing evidence and literature pertaining to the effects of kratom and the mechanism by which kratom may cause psychosis. **Case** This is the case of a 22-year-old African American male with a history of polysubstance abuse who presented with symptoms of psychosis associated with auditory and visual hallucinations in addition to delusions of paranoia and hyper-religiosity after Kratom use. **Discussion and Conclusion** Kratom use has been associated with several medical and psychiatric conditions including psychosis. Although there is a lack of evidence that directly links Kratom to psychosis, there is evidence supporting a relationship between the two. Previous studies have shown psychotic symptoms have been reported by frequent kratom users and the active ingredients in the plant itself may cause activation of certain receptors manifests as psychotic features. One of the first reported studies associated kratom use with psychosis dates to 1957. The study followed 30 Thai individuals, one of which was a female, who chronically used Kratom and found the users experienced both physiological and psychological effects. Of the 30 subjects, 5 reported psychotic symptoms including confusion, delusions, and

hallucinations. Since then, psychosis likened to kratom usage has only been reported a handful of times. The most recent case report describes a 43-year-old male who utilized kratom for one year to alleviate chronic pain and presented with delusions and hallucinations. This case aims to add more evidence to literature regarding psychosis in kratom users by detailing the psychiatric evaluation of a kratom user, with an underlying diagnosis of a mood disorder, resulting in a substance-induced psychotic episode thereby adding to the growing evidence and literature pertaining to the effects of kratom and the mechanism by which these effects may transpire.

#### **No. 92**

##### **Psychosocial Factors Influencing Palliative Care Preference Among Oncology Patients in Pakistan**

*Poster Presenter: Abyaz Asmar*

*Co-Authors: Muhammad Hassan Majeed, M.D., Noor-Us-Sabah Ahmad, Aliza Mushtaq, Muhammad Khokhar, M.B.B.S.*

#### **SUMMARY:**

**Background:** Palliative Care is being employed globally to provide patients with comfort at end-of-life. Unfortunately, Pakistan as an example of lower-middle-income countries (LMIC), has one of the worst ratios of people receiving palliative care (1:90 million) despite the increasing incidence of cancer. Few studies have reported a lack of palliative care resources and awareness in Pakistan. This study aims to identify the psychosocial factors influencing the palliative care preferences of cancer patients. **Methods:** Over a period of six months (May 2020 to October 2020), a cross-sectional survey of cancer patients admitted to the in-patient unit of The Department of Oncology at Mayo Hospital, Lahore, Pakistan was carried out. A total of 300 cancer patients were approached initially using Convenience Sampling. Eventually, after excluding 188 patients (on the basis of lack of understanding of palliative care, language barrier, or lack of consent) from the study (57%), data from 112 patients were collected. Palliative care's concept was explained to the subjects as "Supportive care given at the end of life that enhances the quality of life instead of treating the underlying disease itself". They were asked if they would choose palliative care in case

their oncologist informed that further anti-cancer treatment would be of little benefit and various factors having a possible influence on their preference were evaluated. Binary logistic regression was used to analyze the data. **Results:** Out of the total patients who were interviewed, sixty-one percent of the patients preferred palliative care. Those who were well aware of prognosis ( $p=0.006$ ), who had a positive perception of palliative care ( $p=0.001$ ), and who believed that receiving palliative care was acceptable in their religion ( $p=0.004$ ) significantly preferred to avail it. More than two-thirds of the patients who opted for palliative care preferred receiving it at their homes. Reasons for this choice of end-of-life care (EOLC) location included receiving care from friends or family ( $n=27$ ), letting their family have a normal life ( $n=20$ ), availability of medical care ( $n=15$ ), financial condition ( $n=4$ ), and feeling a sense of control and dignity ( $n=2$ ). Increasing age ( $p=0.001$ ), cost of stay per day at the hospital ( $p=0.002$ ), and traveling time to the hospital ( $p=0.001$ ) showed a negative correlation with the decision to get palliative care. **Conclusion:** Psychosocial factors seem to play a significant role in the palliative care preference of the patients in Pakistan and thus, it is vital to address the possible influencing variables. The establishment of palliative care and pain medicine as a separate specialty, patients' counseling as per their religious beliefs, improved communication between doctors and patients regarding prognosis, and patients having more autonomy over their healthcare decisions are some of the ways to ensure informed decisions by the patients as well as to improve the quality of EOLC.

#### **No. 93**

##### **Reading of the Week: A Novel Continuing Professional Development Program for Psychiatrists and Residents That Osler Would Have Liked**

*Poster Presenter: David Gratzner, M.D.*

*Co-Authors: Faisal Islam, Sanjeev Sockalingam*

#### **SUMMARY:**

Sir William Osler started the first journal club more than a century ago. Though technology has advanced, in our day as in Osler's, continuing professional development (CPD) continues to be

challenging to deliver. This presentation discusses the Reading of the Week (ROTW), an innovative education program, aimed at Canadian psychiatrists and residents of psychiatry, and the contribution of this program to their CPD. ROTW summarizes the latest literature and is emailed out weekly through formal partnerships with 13 Canadian post-graduate programs; Readings are also available online. The selections cover everything from public policy to practice, including studies from *The British Journal of Psychiatry*, *The Lancet Psychiatry*, and *The American Journal of Psychiatry*. Readings include commentary, providing a larger context. Like Osler's journal club, there is the opportunity to exchange ideas, with "letters to the editor." Methods: In the spring of 2019, we aimed to assess outcomes for ROTW using continuing medical education (CME) evaluation framework (Moore's framework). Results: 332 responded to the online survey (a third of subscribers). 90% reported they "always or usually" read the summary. 97% were satisfied with ROTW; 60% shared ROTW with someone else at least once. The most significant findings: ROTW improved participants' understanding of psychiatry (93%) and informed their practice (83%). "I have used the summaries to make better informed clinical decisions." Discussion and Conclusions: This presentation outlines the practical implementation and impact of a unique CPD intervention aimed at addressing challenges related to remaining "up-to-date" amidst the vast amount of resources available in print and online. Survey data suggests that ROTW has a high satisfaction rate and achieves practice change, perhaps because it provides a boundless learning option for trainees and providers. Further research is needed better to understand the reasons for the success of this program.

#### No. 94

##### **Real-Life Experience With Brexanolone for Postpartum Depression: Insights and Observations**

*Poster Presenter: David Foster Silver, M.D., M.B.A.*

##### **SUMMARY:**

Background: The incidence of postpartum depression (PPD) is 15%. Standard treatments result in suboptimal response rates over intervals of times >6 weeks. In 2019 brexanolone (BRX) was FDA-

approved as a 60-hour continuous intravenous infusion for PPD. Randomized controlled trials (RCT) demonstrated 60-70% response rates at 60 hours from initiation of BRX and lasting for 30 days. Side effects included: 5% excessive sedation and 4% loss of consciousness (LOC) – overlapping in patients. We examined the outcomes of our first 20 patients treated with BRX. Methods: Patients with moderate to severe PPD consented for BRX infusions. Diagnoses and severity of PPD were based on HAM-D scores >20, confirmed by 90-minute psychiatric evaluations (PE). Selection criteria matched that of the RCT. Major depressive episodes started no earlier than the 3rd trimester and no later than 4 weeks postpartum (PP). BRX was started within 6 months PP. All patients were enrolled in an FDA Risk Evaluation and Mitigation Strategy (REMS) program and treated per REMS protocol. Patients were monitored with Riker sedation scales every 2 hours during the day and every 4 hours over night, and continuous pulse oximetry during the 60-hour infusion. Edinburgh Postpartum Depression Scales (EPDS) and PE were obtained prior to infusion and daily until discharge. Follow-up included PE at 2 weeks, 4 weeks and 3 months post-treatment. Side effects, EPDS scores, and PE were prospectively recorded and analyzed retrospectively. Results: From 9/2019 to 9/2020 20 patients were treated with BRX. 20/20 were maintained on SSRI or SNRI at stable doses for >6 weeks prior to treatment. Median HAM-D score=25 (range=21-28) and pretreatment EPDS=24 (range=10-28). 20/20 completed BRX without interruption or dose reduction. 0/20 had sedation or LOC. Side effects included 2/20 with recurring migraine headaches (both with history of migraines), 3/20 with moderate headaches, and 7/20 with hot flushes. The overall response rate was 85% (17/20 – 12 complete and 5 partial responses). 12/17 responded by day #3. 5/17 responded by day #10. 16/17 responses were durable for 3 months of follow-up. 1/17 relapsed between 3-4 weeks post-treatment. She was subsequently diagnosed with bipolar 1 disorder requiring lithium (1st manic episode 5 months post-BRX). Of 3 non-responders, 2 had migraine headaches during treatment, and 1 had pre-existing untreated OCD. 9/20 with pre-existing active GAD had residual GAD symptoms despite response of depression to BRX. Conclusions: 60% response to BRX on day #3 was consistent with

RCT. An additional 25% responded between days #3 and #10 for a total response rate of 85% and remission rate of 60%. Pre-existing OCD, BPAD and treatment-related migraines were associated with decreased response to BRX. Pre-existing GAD did not respond even in those whose depression responded to BRX. No sedation or altered consciousness was observed.

#### No. 95

##### **Real-World Characteristics of Patients With Major Depressive Disorder With Acute Suicidal Ideation or Behavior Initiating Esketamine in United States**

*Poster Presenter: Kruti Joshi, M.P.H.*

*Lead Author: Amanda Teeple*

*Co-Authors: Maryia Zhdanova, Aditi Shah*

#### **SUMMARY:**

**BACKGROUND:** Adults with evidence of major depressive disorder (MDD) with acute suicidal ideation or behavior (MDSI) initiated on esketamine after its approval for (1) treatment resistant depression (TRD; overall cohort) and (2) MDSI (MDSI indication cohort, subset of the overall cohort) were characterized to understand variation in patient profiles related to drug indication approvals.

**METHODS:** Adults with =1 esketamine claim were selected from Clarivate's Real World Data (RWD) Repository (01/2016-03/2021). Patients had evidence of MDSI (=1 diagnosis for either suicidal ideation or behavior and =1 diagnosis for MDD) during the 12 months before or on the date of esketamine initiation. Those initiated on esketamine (index date) on or after 03/05/2019 were included in the overall cohort, and those on or after 08/05/2020 in the MDSI indication cohort. Patient characteristics were described over the 12-months pre-index period. **RESULTS:** The overall cohort included 200 patients (mean [median] age 40.1 [38.6] years, 61.0% female) and the MDSI indication cohort included 58 patients (mean [median] age 36.2 [32.9] years, 63.8% female). The mean [median] time from the most recent suicidal ideation or behavior diagnosis to index date was 4.6 [3.9] months for the overall cohort and 3.8 [2.4] months for the MDSI indication cohort. Proportions of patients with claims-based evidence of TRD before the index date were 13.0% and 6.9% in the overall and MDSI

indication cohorts, respectively; 58.0% and 53.4% had no observed antidepressant use, 11.5% and 13.8% filled a prescription for 1 unique antidepressant, 9.5% and 15.5% for 2 unique antidepressants, 21.0% and 17.2% for =3 unique antidepressants in the overall and MDSI indication cohorts, respectively. Proportions of patients with a psychiatric diagnostic evaluation were 46.5% and 50.0% in the overall and MDSI indication cohorts respectively, 52.0% and 51.7% received psychotherapy, respectively. Most patients had =1 outpatient visit with a diagnosis for MDD (overall: 81.5%; MDSI indication: 77.6%). Proportions of patients with all-cause inpatient admissions were 62.5% and 55.2%, with emergency room visits 66.5% and 65.5%, with outpatient visits 96.0% and 94.8% in the overall and MDSI indication cohorts, respectively. Mean [median] all-cause monthly healthcare charges were \$6,909 [\$3,714] in the overall cohort and \$5,795 [\$2,675] in the MDSI indication cohort. In the overall and MDSI indication cohorts, 66.0% and 73.6% of all-cause charges were mental-health related, respectively. **CONCLUSIONS:** Based on observed characteristics, patients with MDSI initiating esketamine after the approval date for the MDSI indication versus those treated post the approval date for TRD, appeared younger, with a shorter time to esketamine initiation after most recent diagnosis for suicidal ideation or behavior. Of note, a subset of both cohorts also had evidence of TRD. This study was supported by Janssen Scientific Affairs, LLC.

#### No. 96

##### **"Reasonable Degree of Medical Certainty": Consensus Regarding Its Definition in a Court of Law From Psychiatrists' Perspectives**

*Poster Presenter: Melanie Chang Zhang*

*Lead Author: Noémie Celine Isabelle Praud, M.D.*

#### **SUMMARY:**

Introduction: "Reasonable degree of medical certainty" is what many medical experts are asked to attest to when testifying in a court of law. Its first documented usage in a courtroom dates back to the early 20th century, when physicians were asked to predict future consequences and damages in civil law cases. Since then, this phrase has populated the

medical-legal system. However its definition is imprecise and subject to controversy. Objectives: Due to forensic psychiatrists' close association with the judicial system, our goal was to determine their degree of confidence in the term "reasonable medical certainty" and to propose a standardization to this phrase. Furthermore, we aim to determine whether there were differences in confidence ratings between general and forensic psychiatrists, and between those who have had multiple experiences testifying in court versus those who had not. Methods: We developed a 7-item survey to assess participants' opinions regarding the concept of "reasonable medical certainty" and their own judgement. The following questions were included in the survey: (1) Are you a psychiatrist, (2) Do you consider yourself a forensic psychiatrist, (3) In which country/province did you receive your forensic training, (4) Have you testified in court five times or more, (5) Do you qualify your evidence in court to a "medical certainty" (6) What percentage of certainty do you think reasonable medical certainty represents, (7) Optional: add comments about any issues regarding medical certainty. Results: 52 psychiatrists completed the questionnaire; 43 of the participants were identified to be forensic psychiatrists. The mean percentage of certainty participants rated "reasonable medical certainty" to represent was 64.06%. There was a significant difference between those who testified in court five times or more and the percentage they believe medical certainty represents. Those who have testified 5 times or more report they believe a reasonable medical certainty represents a higher percentage ( $m=66.16$ ,  $sd = 14.05$ ) of certainty compared to those who have not testified in court 5 times or more ( $mean=55.22$ ,  $sd = 11.73$ ,  $t(45) = -2.16$ ,  $p=.036$ ). Within the group of participants who are forensic psychiatrists ( $n=43$ ), 56% answered that they do not qualify their evidence in court to a medical certainty, while 78% of those who were not forensic psychiatrists ( $n=9$ ) said the same. Conclusion: The average percentage of certainty ascribed to the phrase "reasonable medical certainty" was 64.05%. Those who had experience testifying in court (defined as those who had testified in court five or more times) assigned a significantly higher degree of certainty than those who had not. This suggests that physicians who have

had more experience testifying in court attribute higher cut offs to term "reasonable medical certainty", and may hold more stringent views regarding what this term.

#### **No. 97**

#### **Relations Among Adverse Childhood Experiences, Positive Childhood Experiences, and Mental Health Symptoms in Women Attending a High-Risk OB Clinic**

*Poster Presenter: Joy Osofsky, Ph.D.*

*Co-Authors: Howard Joseph Osofsky, M.D., Ph.D., Andrew Frazer, Ph.D.*

#### **SUMMARY:**

The perinatal period can be a time when women experience many positive feelings but also concerns for themselves and their developing baby. The Adverse Childhood Experiences (ACEs) study (Felitti et al., 1998) has contributed to increased understanding of ways that exposure to abuse, neglect, and family dysfunction in childhood may be related to later physical and mental health problems. While ACEs are important to consider during the perinatal period, less attention has been paid to positive childhood experiences (PCEs) that may serve as a moderating factor for ACEs as well as mental and relational health (Bethell et al, 2019). A collaborative program was developed between the Departments of Obstetrics and Psychiatry in high-risk obstetrical clinics in a Southern academic medical where women were also screened for participation in a perinatal psychosocial support intervention program. The screening included measures of ACEs, PCEs, Adult-Reported Social and Emotional Support (ARSES), and symptoms of life stress, depression, anxiety, posttraumatic stress, and substance use. Data were obtained from 244 participants, ages 18 to 43 ( $M = 27.81$ ;  $SD = 5.92$ ). The demographic data from the obstetrical clinics indicate the following breakdown: 68% African American, 19% Caucasian, and 7% Latino/Hispanic, and 6% Other. Preliminary results suggest that ACEs were positively associated with tobacco use, opioid use, current life stress, depression (measured with PHQ-9), anxiety (measured with GAD-7), and post-traumatic stress (measured with PCL-C), whereas PCEs were negatively associated with tobacco use, opioid use,



current life stress, depression, anxiety, and post-traumatic stress. Women who reported more PCEs also reported having more ARSES. This presentation will focus on the importance of assessing ACEs and PCEs during pregnancy and fostering early relationships and other positive early experiences for infants.

#### No. 98

### Remote Delivery of Mental Health Care During the COVID-19 Pandemic: Survey of Telehealth Successes and Challenges at UCSF

Poster Presenter: Sudha Prathikanti, M.D.

#### SUMMARY:

**BACKGROUND** During the COVID-19 pandemic, the Psychiatry Department at University of California, San Francisco, rapidly increased telehealth services at its 3 city campuses: Zuckerberg San Francisco General (ZSFG) serving safety-net populations, San Francisco Veterans Affairs Healthcare System (SFVA) serving military veterans, and UCSF Health System (UCSF-Health) serving the privately-insured. Provider and patient surveys at each campus aimed to assess satisfaction with remote care and potential barriers.

**METHODS** During one-week sampling in early December 2020, 756 providers and 9561 adult outpatients were emailed anonymous surveys inquiring about experiences with remote mental health visits. Satisfaction with visits was measured by asking participants to rate their agreement with the statement "I would like a phone visit again" or "I would like a video visit again." Ratings could range from "strongly disagree" (score=1) to "strongly agree" (score=5). Responses were analyzed via descriptive statistics, ANOVA, and multivariate regression. **RESULTS** Surveys were returned by 230 providers and 1538 patients. After shelter-in-place orders in March 2020, telehealth uptake rates rose from 20% to 95% at UCSF-Health, 29% to 82% at ZSFG, and 40% to 85% at SFVA. During the sampling period, 91% of visits occurred remotely. Proportion of video/phone/in-person visits differed significantly by campus: UCSF-Health had 94% video, 6% phone, and 0% in-person; ZSFG had 28% video, 49% phone and 23% in-person; SFVA had 52% video, 46% phone, and 2% in-person. Among providers, 62% "strongly agreed" to a video visit again, with a mean

satisfaction score of 4.34 [SD=1.06], while 42% "strongly agreed" to a phone visit again, with a mean satisfaction score of 3.84 [SD=1.26]. Among patients, 63% "strongly agreed" to a video visit again, with a mean satisfaction score of 4.24 [SD=1.19], while 52% "strongly agreed" to a phone visit again, with a mean satisfaction score of 3.93 [SD=1.35]. More than half of all providers, and more than half of patients at UCSF-Health and SFVA, indicated video visits were "as good as" or "better than" in-person visits, but only 41% of ZSFG patients felt the same. Compared to UCSF-Health patients, ZSFG patients were half as likely to have reliable internet ( $p=0.033$ ); similarly, SFVA patients were half as likely to have reliable internet ( $p=0.001$ ), and 1.8 times more likely to need help with video visits ( $p=0.001$ ). Significantly more patients at ZSFG (8%) and SFVA (7%) relied on donated video devices, compared to those at UCSF-Health (1.4%). Patients 55 years and older were 3 times more likely to have reliable internet than younger groups ( $p<0.010$ ). **CONCLUSION** Telehealth uptake rates and satisfaction scores support investment in post-pandemic infrastructure for remote mental healthcare at our academic center. Findings highlight the need to address telehealth resource disparities among safety net populations, military veterans, and the privately insured.

#### No. 99

### Repetitive Transcranial Magnetic Stimulation to the DLPFC for Treatment of Schizophrenia: Analysis of Randomized Controlled Trials and Pilot Studies

Poster Presenter: Joseph Elfar, M.D.

#### SUMMARY:

**Background:** Repetitive transcranial magnetic stimulation (rTMS) is a non-invasive therapeutic tool used to treat depression and is currently being explored as a treatment option for other neuropsychiatric disorders. The target of rTMS for depression is the dorsolateral prefrontal cortex (DLPFC). Detailed mechanisms of the therapeutic effects of rTMS have not been fully understood. However, prefrontal cortical dysfunction is frequently reported in schizophrenia and is thought to underlie negative symptoms of schizophrenia.

**Objective:** This study aimed to review existing literature on the effect of rTMS targeting the DLPFC

as a therapeutic modality for schizophrenia.

**Methods:** A literature search was conducted using PubMed with the following MeSH terms: “TMS AND schizophrenia,” “rTMS AND Schizophrenia,” “transcranial magnetic stimulation AND schizophrenia” and “repetitive transcranial magnetic stimulation AND schizophrenia” We included open label studies and Randomized Controlled Trials published in English in the past 10 years and exclusively conducted in adult humans. This literature review included studies that involved repetitive transcranial magnetic stimulation, but excluded studies where the interventions were continuous transcranial magnetic stimulation, theta-burst stimulation or any other interventions that were not primarily 1-20 Hz frequency repetitive transcranial magnetic stimulation to the DLPFC.

**Results:** A total of 21 studies representing 527 patients met our criteria for review. 16 of the studies were RCTs and the remaining 5 studies were preliminary/pilot studies/preliminary studies. 18 of the 21 studies found that rTMS to the DLPFC was effective or efficacious in reducing the severity of schizophrenia symptoms in at least one of the outcome measurement scales used (PANSS, SANS, SAPS, facial affect recognition etc...). The majority of these studies (20/21) used the positive and negative syndrome scale. The one that did not used the Scale for the assessment of negative symptoms (SANS) and the scale for the assessment of positive symptoms (SAPS).

**Discussion:** Since it’s approval as a treatment of depression. rTMS has been investigated as a treatment modality for other psychiatric diseases. In this literature review, we searched PubMed for trials using rTMS as a treatment modality for schizophrenia and found that this treatment may hold promise for patients with schizophrenia in alleviating both positive and negative symptoms.

**Conclusion:** Based on our literature review, we can conclude that rTMS in the DLPFC has demonstrated some efficacy in reducing the severity of symptoms in schizophrenic patients and requires further investigation.

#### No. 100

##### **Resilience as a Predictor of Depression and PTSD Symptom Changes Among Veterans in Intensive PTSD Treatment**

*Poster Presenter: Jessica B. Tharaud, B.A.*

*Co-Authors: Mauricio Montes, Philip Held, Ph.D.*

#### **SUMMARY:**

**Background:** Resilience is often considered the ability to bounce back from adversity. Higher resilience has been linked to reduced odds of developing PTSD after trauma. Baseline resilience has been found to predict improved treatment outcomes of pharmacological treatment for PTSD. In a small sample ( $n = 29$ ) of male veterans with PTSD and a substance use disorder, increased resilience across treatment was associated with fewer post-treatment PTSD symptoms. However, this finding has not been replicated in larger, more diverse samples. The current study examines whether resilience changes are associated with psychiatric symptoms in two large samples from Cognitive Processing Therapy (CPT)-based outpatient intensive PTSD treatment programs (ITPs).

**Methods:** Data were drawn from 203 veterans (46.3% male, 57.6% White,  $M_{age} = 43.3$ ,  $SD_{age} = 9.9$ ) who completed a 2-week and 483 veterans (65.6% male, 68.1% White,  $M_{age} = 43.1$ ,  $SD_{age} = 9.4$ ) who completed a 3-week CPT-based ITP for PTSD. Veterans completed self-report measures of resilience (CD-RISC-10), PTSD (PCL-5), and depression (PHQ-9) symptoms pre- and post-treatment. Linear regression models were used to examine if baseline resilience or changes in resilience predicted post-treatment PTSD and depression symptom severity.

**Results:** Veterans reported increased resilience from pre- to post-treatment in both the 2-week ( $M_{diff} = 1.61$ ,  $t(202) = 4.37$ ,  $p < .001$ ,  $d = .31$ ), and the 3-week ITP ( $M_{diff} = 2.44$ ,  $t(482) = 7.63$ ,  $p < .001$ ,  $d = .35$ ). Baseline resilience was not a significant predictor of post-treatment PCL-5 score in the 2-week ( $b = -.08$ ,  $p = .62$ ,  $R^2 = .37$ ) or 3-week ITP ( $b = -.09$ ,  $p = .38$ ,  $R^2 = .13$ ) when controlling for baseline PCL-5 score. However, change in resilience from pre- to post-treatment significantly predicted post-treatment PCL-5 score in the 2-week ( $b = -.71$ ,  $p < .001$ ,  $R^2 = .42$ ) and the 3-week ITP ( $b = -.87$ ,  $p < .001$ ,  $R^2 = .24$ ), even after controlling for baseline PCL-5 score. Similar results were found when the same analyses were conducted with PHQ-9 as an outcome variable. Controlling for baseline depression symptoms, baseline resilience did not significantly predict post-treatment PHQ-9 score in the 2-week ( $b = -.02$ ,  $p = .62$ ,  $R^2 = .40$ ) or 3-week ITP ( $b = -.05$ ,  $p = .22$ ,  $R^2 =$

.15), but change in resilience significantly predicted post-treatment PHQ-9 score in both the 2-week ( $b = -.16, p = .006, R^2 = .42$ ) and the 3-week ITP ( $b = -.21, p < .001, R^2 = .20$ ). **Conclusion:** Intensive PTSD treatment was associated with increased resilience in veterans. Change in resilience, but not baseline resilience, significantly predicted endpoint PTSD and depressive symptoms in two different CPT-based ITPs. These findings suggest that resilience can be improved in relatively short amounts of time and that such changes are linked to treatment outcomes. Future research should examine temporality of resilience changes and symptom improvements to examine causality.

#### **No. 101**

##### **Restoring Power: Dynamic Evolution of Catatonia in the Context of Cerebral Venous Sinus Thrombosis and Hemorrhagic Infarction—a Case Presentation**

*Poster Presenter: Spencer Michael Gardner*

*Co-Authors: Patrick A. Ho, M.D., M.P.H., David P. Kasick, M.D.*

#### **SUMMARY:**

Catatonia is a well-described syndromic collection of motor and behavior signs and symptoms that may be primarily associated with a psychiatric condition or secondarily associated with a neuromedical condition. Additionally, cerebral venous sinus thrombosis (CVST) is a rare condition with often nonspecific presentation, though if recognized and treated promptly, has a favorable prognosis. We present the case of a 70-year-old female with a past medical history of Parkinson's disease (PD) diagnosed two years prior as result of a cerebrovascular accident (CVA). She presented with signs of catatonia including stupor, mutism, negativism, posturing, grimacing, and tearfulness. She was able to complete activities of daily living several days prior to presentation when she then began to develop headache with increasing unresponsiveness. Relevant differential diagnoses included seizure, lupus cerebritis, autoimmune encephalitis, undertreated PD, and catatonia. Unspecified encephalopathy was noted on EEG but workup and therapeutic trials for seizure, systemic lupus erythematosus (SLE), paraneoplastic process, malignancy, and undertreated PD were negative and

ineffective. Head imaging demonstrated a hemorrhagic infarct in the left frontoparietal lobes and CVST. It seemed plausible that the patient's catatonic presentation temporally and mechanistically aligned with identification of her CVST. Subsequent lorazepam titration, heparin administration, and additional medication trials did not produce clinical improvement over the next six weeks. Due to the presence of CVST, electroconvulsive therapy (ECT) was deemed too great a risk with the possibility of herniation. In collaboration with her family, she was discharged with a plan to reimage in several months to monitor for CVST resolution and monitoring for catatonic symptom evolution. A day prior to discharge the patient's responsiveness improved remarkably, with a sudden ability to interact and answer questions. At discharge, she was oriented to self and required reorientation to location, time, and situation with no apparent memory of the previous events. Only two prior case reports of CVST and co-occurring catatonia have been reported. The first was treated with ECT and resulted in uncal herniation. The second was a patient with history of SLE, who had resolution of symptoms with initiation of anticoagulation. Presented here is likely the first documented case of a patient with a pre-mortem diagnosis of CVST with catatonia but without SLE, suggesting that downstream effects of CVST may represent a rare etiology of catatonia. Thus, ruling out CVST may be an appropriate part of the neuromedical workup for presentations of secondary catatonia, especially when not responsive to other mobilizing interventions. Our case demonstrates catatonia in the context of CVST, a phenomenon sparsely described in the literature that could potentially be a rare contributor to catatonic motor behavior.

#### **No. 102**

##### **Satisfaction of Telepsychiatry Modality in Patient Treatment: A Primary Data Collection Analysis**

*Poster Presenter: Joe P. Shortall, D.O.*

*Lead Author: Jayson Tripp, D.O.*

*Co-Authors: John Christopher, Scott Klenzak, M.D.*

**SUMMARY:**

**Background:** Patients in rural counties of the United States have reduced access to psychiatric care. A 2019 study found that a third of rural counties had zero psychiatrists. Multiple surveys showed rural patients lack access due to factors of commute distance, cost of travel, logistics, and perceived stigma of psychiatric treatment. These factors are partially responsible for rural patients attending thirty-three percent fewer mental health visits per year compared to urban patients. Studies and pilot programs have shown telepsychiatry, psychiatric care delivered via video teleconference (VCT), can help overcome these barriers to mental healthcare. Telepsychiatry reduced patient travel time and cost. Psychiatrists reported that telepsychiatry allowed them to care for more rural patients over a greater geographic area. Patients who received telepsychiatry care have reported high levels of satisfaction with their care and providers expressed concordant levels of high satisfaction. **Methods:** This project had approval from the Institutional Review Board and it involved collecting data through surveys of providers and patients that were participating in telepsychiatry visits. This was done over an initial 5-month period through the outpatient resident clinic to determine patient and provider satisfaction of telepsychiatry through a 15-question patient survey and a 26-question provider survey. Surveys to patient and provider were sent out immediately after the conclusion of the telepsychiatry session. **Results:** 19 patients responded to 73 surveys that were sent out with a response rate of 26%. 25 providers responded to 46 surveys for a response rate of 54%. Overall patients reported satisfaction with VCT visit with 100% reporting VCT sessions are a convenient form of healthcare, felt their privacy respected, generally satisfied with the VCT system, and would use the system again. 94.7% agreed VCT saved time, 31.6% were uncertain they would have seen psychiatry if VCT was not available. Providers were generally satisfied with VCT encounters with 100% reporting their diagnosis was not impaired by VCT, did not consume more time than face-to-face encounter, and improved prognosis. 96% reporting the process was easy to use. 100% of providers would have preferred in-person evaluations if available. 64% of provider evaluation were satisfied with the video quality and 76% were satisfied with

the audio quality. **Conclusion:** VCT as a means of psychiatric treatment in general yields high patient and provider satisfaction. Providers would prefer to meet in person for evaluations but is not always possible due to patient constraints. Improvements in video and audio would help with provider satisfaction. Patients find VCT allows for earlier appointments and more convenient than in-person evaluation.

**No. 103****Sequential Medical Education Programming Improves Knowledge of Clinical Data and Competence in Selecting Antipsychotic Therapies Among Psychiatrists**

*Poster Presenter: Thomas Finnegan, Ph.D.*

*Co-Authors: Jovana Lubarda, Ph.D., Roger S.*

*McIntyre, M.D.*

**SUMMARY:**

**Introduction** The goals of treatment in schizophrenia include targeting symptoms, preventing relapse, and increasing function to improve quality of life and facilitate re-integration into society. Although a range of antipsychotic medications (APMs) exists for treating schizophrenia, outcomes have historically been poor and primarily related to nonadherence. New developments in psychotherapeutic and pharmacologic options have placed a greater emphasis on functional recovery of patients. Previous data indicates that psychiatrists lack awareness of new developments relating to APMs or how such developments can be utilized in clinical practice. Two online medical education activities were developed to improve the awareness of data and clinical applicability newer APMs for the management of schizophrenia among psychiatrists. **Methods** The online CME activity consisted of two 30-minute video discussions between two or three faculty experts in schizophrenia. Educational effect was assessed by comparing a matched sample of neurologists' responses to four identical questions pre- and post-activity. A Chi-square test identified significant differences between pre- and post-assessment responses. Cramer's V was used to calculate the effect size of the online education. Data for the first program was collected between 12/26/19 and 3/6/20, whereas data for the second

program was collected between 1/31/20 and 4/6/20. **Results** Participation in either activity resulted in a noticeable or considerable educational effect among psychiatrists (Activity 1: n=1105; V=.17,  $P<.001$ ; Activity 2: n=707; V=.13,  $P<.001$ ). When the outcomes were analyzed across programs, the following areas showed significant ( $P<.05$ ) pre- vs post-educational improvements: mechanism of action of newer APMs (33% relative post-education improvement), clinical trial data for newer APMs (23% relative post-education improvement), and clinical selection of newer APMs in schizophrenia (30% relative post-education improvement. Practice setting (academic vs community) did not meaningfully impact the educational outcomes for any of the questions. Approximately 25% of psychiatrists' who participated in either program improved their confidence in the management of schizophrenia. **Conclusions** The results indicated that sequentially released CME-certified video programming featuring discussion between expert faculty was effective at improving knowledge and competence among psychiatrists regarding the evidence for and clinical use of newer APMs for the management of schizophrenia. As clinical data on APMs continues to be generated and released, future education is needed to both review such data and the related clinical applicability.

#### **No. 104**

##### **Should Cycloid Psychosis Be Included in Our Diagnosis Classification Systems? A Case Report**

*Poster Presenter: Vanessa Christina D'Souza, M.D.  
Co-Authors: Lisa K. D'Souza, Mayank Gupta, M.D.*

#### **SUMMARY:**

Cycloid psychosis is a condition that was first noted in 1928, and diagnostic criteria were established in 1981. However, cycloid psychosis was not adopted into DSM classifications (1). Cycloid psychosis is where there is a rapid onset of episodes psychosis, often associated with sleep disturbances, with full recovery following each episode (2). The current psychopharmacological management for cycloid psychosis is often based on clinical experience, as there are no controlled studies associated with this condition (3). We present a case of a 32-year-old female, who had four distinct psychotic episodes

with full recovery over the past 10 years suggestive of possible cycloid psychosis. The patient's most recent psychiatric hospitalization was after she presented to the emergency room with a headache with significant sleep disturbances. During the evaluation, she also had paranoid delusions and medical workup including neuroimaging, a head CT without contrast, was unremarkable ruling out any organic cause of psychosis. The patient's symptoms of psychosis were successfully treated with lurasidone 80 mg over an 11 day period. Despite cycloid psychosis not being a widely recognized diagnosis, it should be considered as a differential diagnosis.

#### **No. 105**

##### **Social Determinants of Mental Health in the LGBTQ+ Population During COVID19**

*Poster Presenter: Pratyaksha R. Sinha, M.D.  
Co-Author: Narjis Mhaimed*

#### **SUMMARY:**

Through the 21st century, there has been an upsurge in acceptance, awareness, and support for the lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community. However, after the start of the COVID pandemic, due to the increase in social isolation, limitation of access to support outside of confined spaces along with their ongoing stigmatization and minority status, this population's mental health disparity continues to be extremely high. Two independent reviewers conducted title, abstract, full-text searching, and data extraction from the PubMed, PsycINFO, and ResearchGate databases. Of the 50 articles screened, five were included in this review. This marginalized community is socially vulnerable due to oppression and discrimination including but not limited to the absence of anti-bullying laws in schools, legal discrimination, lack of physicians who are culturally competent in LGBTQ health, and shortage of community programs that support these individuals. Most LGBTQ college students indicated that their immediate families that do not support or know their LGBTQ identity. This lack of social support available to those in the LGBTQ community indicates a severe lack of their safety which is only worsened by the implementation of the self-isolation

mandates. Such social determinants have to lead the LGBTQ population to be at increased risk for poor mental health as seen by the fact that they are 2 to 3 times more likely to attempt suicide. It has been well established that LGBTQ persons face mental health disparities, and these results show that this disparity may be exacerbated as a result of COVID-19 pandemic trauma and social isolation measure implementation. Eradicating healthcare disparities experienced by the LGBTQ community and maximizing efforts to enhance their mental health are necessary to guarantee the safety and adequacy of their quality of life. Raising awareness and addressing these healthcare disparities will lead to reduced transmission of disease among this population, reduced mental health burden, and increased longevity.

#### **No. 106**

##### **Standardization of Protocol for Screening for Food Insecurity and Process for Ensuring Referral to Community Resources**

*Poster Presenter: Chhavi Chaudhary, M.D.*

*Co-Author: Eyuel Terefe*

##### **SUMMARY:**

**BACKGROUND:** Feeding America estimates that 45 million people (1 in 7) may have experienced food insecurity in 2020. In comparison, 7.3% of the senior population were food insecure in 2018, a figure that is expected to be more elevated amidst the covid-19 pandemic. Understandably hunger and social isolation not only jeopardize the health and well-being of older adults, but they also place a significant strain on our healthcare system. We identified, the Geriatric Behavioral Unit (GBU) of at University of Texas Health Science Center at Tyler (UTHSCT) lacked a formal process of assessing and addressing Food insecurity. We aimed to develop a pilot proof-of-concept QI to utilize QI methodology in conjunction with community engagement as a tool for psychiatry trainee providers to address and tackle the social and medical dilemmas and health disparities in our patient population and community. **METHODS:** We implemented a validated two-item questionnaire for food insecurity. For those patients the screened positive for food insecurity were assigned ICD-10 CM Code Z59.4 Lack of Adequate

Food diagnosis code within our Electronic Medical Record (EMR) system. Patients that screened positive for FI were referred to Meals on Wheels using a modified referral form we developed and allowed to obtain a 2-week supply of non-perishable food boxes supplied by the East Texas Food Bank and developed by a Registered dietitian. **RESULTS:** Our QI resulted in screening 95% (39/41) of qualified new admits—exceeding our goal of 75%. Additionally, 38% of those (15/39) were identified as Food-Insecure and assigned diagnosis (Z59.4 Lack of Adequate Food). 93% (14/15) referred to MOW and received a 2-week Food-Box at discharge to home. Ultimately, 28% (4/14) Food-Insecure patients obtained continuous services with MOW, which is below our benchmark of 50%. **CONCLUSION:** Overall, this was a successful pilot for the proof-of-concept QI initiative, limited in scope due to decreased admission secondary to the COVID pandemic restriction. For direct patient benefits, the cost-saving was calculated to average \$120-\$140 per month. Barriers to establishment of services was primarily erroneous phone contact information. We hope to improve and expand this pilot of formal screening and referral process to other UTHSCT psychiatric and medical floors with the goal of incorporating addressing biopsychological components as part of the standard collaborative treatment and care model at UTHSCT.

#### **No. 107**

##### **Subjective Analysis of Why Patients With Severe Mental Illness Smoke Cigarettes**

*Poster Presenter: Paige Prologo-Richardson*

*Lead Author: Chandani Lewis, M.D.*

*Co-Authors: David Paternite, Jamie Dowling*

##### **SUMMARY:**

Increased smoking rates among those with schizophrenia compared to the general population is a well-documented phenomenon (Fang et al., 2019). Knowing that less than 10% of the population have been diagnosed with severe mental illness (SMI) but account for more than 30% of tobacco sales, we want to explore why they have such high rates of smoking tobacco use (Johnson et al., 2010). Several hypotheses have been explored to explain this phenomenon. These theories and hypotheses center

around the self-medication theory, genetics, and differences in cognition in those with SMI (Ferreira & Coentre, 2020). However, there is not as much research on the subjective reasons that those with SMI smoke cigarettes. We propose that the subjective reasons for smoking will remain consistent across those who have schizophrenia and all other psychosis-related and affective disorder, but the initial reason for smoking in those with SMI will be different than the reasons for why they continue to smoke currently. We are conducting a survey questionnaire on patients with SMI at the Community mental Health agency (CMHC). Patients included were over 18 years old, diagnosed with severe persistent mental illness (SPMI) diagnosis being treated at the CMHC and are current cigarette smokers. The survey included subjective main reasons why the patients initially started smoking and why they currently smoke, effects on several listed emotions, and smoking habits. The emotions questioned are happy, calm, alert, concentration, activity and sociable. The choice of main reasons for smoking are pleasure, calm, necessity, addiction, habit, distraction, imitation, don't know, or other. We also included gender, age range, and part of Fagerstrom's questionnaire. Patients with SMI are more likely to smoke cigarettes, especially those with schizophrenia Research has shown this could be due to genetics, cognition, or the reduction of side effects by nicotine metabolism (Ferreira & Coentre, 2020; Johnson et al., 2010). There have been limited studies on the subjective aspects of why those with SMI smoke cigarettes. Of these few studies, it has been demonstrated that clients smoke for anxiety reduction and improvement of mood and concentration that leads to addiction (Faith Dickerson et al., 2018). With our study, we seek to understand the reasons why those with SMI smoke, how reasons change over time, smoking habits, and diagnosis. We hypothesize that the reasons for initially smoking and currently smoking will be different, but that the reasons will not vary based on clinical diagnosis. Surveys are in process and results are pending.

**No. 108**

**Suicidal Ideation Is Easily Concealed in Face-to-Face Confirmation.**

*Poster Presenter: Yuichiro Y.T. Tokunaga, M.D.*

**SUMMARY:**

Introduction Shiranui Hospital has a stress care ward that specializes in the treatment of depression, and about 70% of the approximately 700 new cases a year are within the range of emotional disorders. Suicidal ideation is often admitted during the first psychological treatment of such a new patient, and to confirm this, SOS-7 has been used since 2010, and the SAD PERSONS scale has been used since 2013. However, in 2018, despite the fact that the oral survey SOS-7 had no suicidal ideation, a shocking event occurred in which one week later, suicide was completed. At the 116th JSPN last year, we reported on the difficulty of grasping suicidal ideation for 304 outpatients who had their first visit. This time, we report that we have increased the number of target cases and investigated them. Purpose Investigate the immanence of suicidal ideation of patients. Targets and methods From May 24, 2019 to March 31, 2020, we retrospectively investigated the suicidal ideation of 648 people who visited our hospital for the first time. Orally suicide risk factor evaluation scale (hereinafter abbreviated as SOS-7), and Communication support tool (hereinafter abbreviated as CST), which is a self-administered evaluation scale by Kuga (2018) and others. CST is created by focusing only on information from patients, and expresses the pathophysiology of depression in letters and pictures. Result There were 556 people with SOS-7 and CST listed in the medical records, 306 women and 250 men. According to the ICD-10 classification, there were 308 F3 and 176 other than F3. Among the 390 people with SOS-7 "no suicidal ideation", there was no association between gender difference and disease (chi-square test  $P = 0.30$ ). Of the 390 people without SOS-7, 254 were F3. Among them, 151 people had suicidal ideation at CST. On the other hand, there were 136 patients other than F3, of whom 56 had CST, and a chi-square test showed an association between CST and disease ( $P < 0.01$ ). By age group, the number of people in their 30s was the highest at 120, followed by 116 in their 40s and 104 in their 20s. Consideration 1. Suicidal ideation is different between SOS-7 (oral survey) and CST (self-administered) evaluations. When it is consciously hidden or when ambivalence to therapists is occurring. 2. Suicidal ideation within F3 is likely to appear in CST (self-filled). 3. Suicidal

ideation is more likely to be clarified by using SOS-7 (oral survey) and CST (self-administered) together.

#### **No. 109**

##### **Summer Immersion Program in CAP: Engaging Medical Students in Pediatric Mental Health**

*Poster Presenter: Desiree Nicolette Shapiro, M.D.*

*Co-Authors: Raphael Cuomo, Anahi Ibarra, Georgia Kovacs, Monica Guo*

#### **SUMMARY:**

Child and Adolescent Psychiatry (CAP) is a field that presently faces challenges pertaining to workforce sufficiency, possibly due to inadequate understanding of this area among pre-specialty medical trainees. Poor appreciation for CAP in this population may be remediated by greater exposure in medical training programs. A summer immersion program in CAP was offered to medical students at UC San Diego. A pre-program survey was conducted in July 2021 to assess respondent immersion in events and courses relevant to CAP, and a post-program survey was conducted in late August 2021 to assess participant valuation of the summer program and its constituent components, as well as impacts of the program on pursuing CAP as a career. Seven students completed both pre- and post-program surveys. Out of nine pre-program CAP-related experiences included in the survey, five students (71%) participated in at least one experience, with two students (29%) attending one event, one student attending two events (14%), and two students attending three events (29%). Notably, three students (43%) had previously attended an "Intro to CAP" elective course offered by UC San Diego School of Medicine. Those who attended this elective course were significantly less likely to value group discussion sessions in the summer course ( $\beta = -1.08$  on a five-point scale,  $p = 0.045$ ). When asked about satisfaction with the overall summer program, all students endorsed the maximum response ("Very satisfied") on a four-point scale. Furthermore, when asked to rate the value of nine program components on a five-point Likert scale (0 = "Not valuable," 5 = "Very valuable"), average ratings ranged from 3.86 for three components (youth mental health literacy, pre-class readings, student-led mental health presentations) to 5.00 for two components

(individualized mentorship, student well-being and compassion). Three statistically significant bivariate correlations were observed between valuation of program components, with the strongest of these being between youth mental health literacy and discussions on cultural sensitivity and humility ( $\beta = 0.906$ ,  $p = 0.005$ ). Five students (71%) stated that they were "More likely" to pursue CAP as a career due to the summer program. Increased likelihood of pursuing CAP as a career choice was significantly correlated with valuation of class pre-readings ( $\beta = 0.841$ ,  $p = 0.018$ ) and in-class mindfulness exercises ( $\beta = 0.878$ ,  $p = 0.009$ ). This summer immersion program appeared effective in enhancing appreciation for CAP among medical students. In addition, these results suggest that CAP curricula might be optimized by planning components for orthogonal student typologies, so as to attract wider student interest. These results also suggest variation in exposure efficaciousness toward generating interest in CAP as a career choice. Further studies should confirm these results in a larger sample of trainees.

#### **No. 110**

##### **Supporting Clinicians After a Patient Suicide: A Systematic Literature Review**

*Poster Presenter: Deborah Y. Park, B.S.*

*Co-Author: Akhil Anand, M.D.*

#### **SUMMARY:**

**Background:** Suicide remains in the top ten leading causes of death in the United States<sup>1</sup>. Patients suffering from suicidal ideations is a psychiatric emergency. Patient suicide is considered an "occupational hazard" as it may cause negative psychological and professional consequences for practitioners<sup>2</sup>. We aim to present an up-to-date systematic review that evaluates the impact patient suicides have on doctors, doctor residents and medical students. **Methods:** A systematic review was conducted in accordance with guidance of PRISMA (Preferred Reporting and Meta-analyses). We searched through the PubMed database from 1984 until September 25, 2021. The following search strategy was used: (impact OR experience OR reaction) AND ((patient suicide) [MeSH Terms] AND (intervention [MeSH Terms])). The electronic



database search was supplemented by a manual search of references in relevant articles. Studies that reported qualitative and quantitative assessments on the impact and prevalence of patient suicide on doctors and trainees were deemed eligible for review. Also, we included literature for postvention and educational programs offered to doctors and trainees after a patient suicide. **Results:** We identified 718 abstracts. Eighteen of them were assessed for eligibility and eight met the inclusion criteria. The literature on this subject was found to be scarce and heterogeneous. Four were qualitative survey studies, three were literature reviews and one was a specific postvention protocol made to aid resident physicians after a patient suicide. Majority of respondents had experienced a patient suicide. Common themes emphasized by respondents included significant emotional distress, sense of failure, increased self-reflection and professional growth. All three literature reviews highlighted the dearth of formal guidance post patient suicide. **Conclusion:** Patient suicide are impactful to doctors and trainees. Equipping clinicians with the education and support to console other practitioners needs to be taught formally in clinical practice.

#### No. 111

##### **Supporting Health Care Workers for COVID-19 Through a Psychological Preparedness Training Intervention**

*Poster Presenter: Zukiswa Zingela, M.D.*

##### **SUMMARY:**

**Background:** The coronavirus disease 2019 (COVID-19) outbreak caused worldwide disruptions to healthcare systems. The emerging evidence indicates that mental health problems have consequently become an occupational hazard in frontline healthcare workers. **Aim:** We aimed to develop a psychological preparedness training (PPT) programme to support frontline health workers in three resource-limited hospitals in South Africa dealing with the COVID-19 outbreak and to evaluate its effectiveness using an audit tool. We established a theoretical framework and goals for a psychological preparedness programme to support healthcare workers at the study sites. **Setting:** Data were collected at the Dora Nginza Hospital, Nelson

Mandela Academic Hospital and Elizabeth Donkin Hospital. **Methods:** We employed an observational, descriptive, and cross-sectional design. A group psychological intervention was developed and implemented at the three sites in South Africa, from mid-April 2020 over 20 weeks. We collected data using an audit tool to measure healthcare workers' perceptions of the outbreak before and after the intervention. We analysed the data to test for a statistically significant difference between the pre-intervention and post-intervention audit tools. **Results:** We supported 761 healthcare workers during the 20 weeks of the programme. Statistical analysis showed a significant positive change from pre- to post-intervention measures in perceptions of health worker about the outbreak, their anxiety associated with the outbreak, their ability to control reactions to stress and the perception of their ability to support others. Feedback comments indicated that the programme was beneficial for the majority of those who attended. **Conclusion:** Health workers who attended the programme reported improvement in stress levels and in perceptions about their ability to cope with the outbreak, as well as in their perceptions of being able to support others. **Keywords:** COVID-19; mental health; health worker; psychological; support; intervention

#### No. 112

##### **Tech and Trainees: A New Residency Curriculum to Reflect the Emerging Digital Psychiatry Landscape.**

*Poster Presenter: Eliza Decroce-Movson*

*Co-Authors: Morkeh Blay-Tofey, Evan Vitiello, Sofia Vi Noori, M.D., M.P.H.*

##### **SUMMARY:**

Digital psychiatry is a term used to describe online and mobile media that provide behavioral health services, including telehealth, mobile applications (apps), and artificial intelligence. It has catapulted to the forefront of psychiatry due to the increasing need for digital interventions during the COVID-19 pandemic. The rapid shift to digital health technologies in mental health systems aims to alleviate overstretched resources and better allocate limited resources. Psychiatry trainees work with many patients already using digital mental health apps, and some residents recommend apps as part

of their clinical care. However, there are gaps in their training about how to safely evaluate and recommend digital tools in clinical practice. In 2018, a pilot curriculum was proposed to address the gap in resident didactic education in digital psychiatry; however, to our knowledge, this has not been implemented as a standard curriculum by any training program to date. Our team developed a digital psychiatry curriculum for residents intended to offer an overview of the field of digital psychiatry, categories of digital tools, training on the appraisal of digital tools for clinical use, and an approach to effectively prescribe or recommend tools for patient use. The curriculum was divided into two parts that could be delivered in consecutive hours or sessions. In the first session, trainees were offered a general introduction to digital psychiatry and participated in a discussion about challenges within the field. They also evaluated existing mental health apps using the American Psychiatric Association's App Evaluation Model. In the second session, trainees learned how to assess a patient's capability to use a digital psychiatry app and formally recommend or prescribe an app to patients. The trainees learned a clinical questionnaire explicitly designed to assess a patient's preparedness for using digital tools. The session ended with a role-playing exercise to practice the skills they had learned. Trainees filled out pre and post session questionnaires. Data from this project reveal that psychiatry trainees have already started incorporating digital psychiatry in their clinical practice. Prior to participating in the curriculum, over 50% of surveyed participants reported recommending an app to a patient, with nearly 10% recommending a digital mental health app more than five times. Importantly, over 90% of respondents were unsure of which apps to recommend, with nearly 43% of participants raising concerns if these apps are evidence-based. Additionally, the data indicate a statistically significant improvement in resident comfort with all stated competencies of the curriculum. The curriculum may serve as a model for digital psychiatry education in residency training programs. Opportunities to train residents in digital psychiatry can advance psychiatrist involvement in shaping the field as these interventions continue to grow in importance.

### No. 113

#### **Temperamental Dimensions of Pediatric Obsessive-Compulsive Disorder: Influence of Attention-Deficit Hyperactivity Disorder and Tourette Syndrome**

*Poster Presenter: Szu-Chi (Jessica) Cheng*

*Co-Authors: Masoud Salehi, M.D., Lauren Mulcahy, Isabella (Yiru) Xie, Marco Grados, M.D., M.P.H.*

#### **SUMMARY:**

**Background:** Temperamental traits are the innate and enduring patterned behavioral and emotional responses of an individual. They include novelty seeking (NS; excitability, energy, exploratory behavior), harm avoidance (HA; fear of uncertainty, worry, shyness), reward dependence (RD; sentimentality, seeking emotional support), and persistence (P; hard-working, perfectionistic, ambitious). Adults with obsessive-compulsive disorder (OCD) generally have higher HA and lower NS, but temperament in pediatric OCD is not well understood. Additionally, given that pediatric OCD is highly comorbid with attention-deficit hyperactivity disorder (ADHD) and Tourette Syndrome (TS), the effect of these comorbidities on temperament needs to be elucidated. In order to characterize temperamental traits in youth with OCD and the effects of comorbid ADHD and TS, this study examines a sample of pediatric OCD. **Methods:** Demographic and clinical data were accrued from a pediatric OCD clinical registry at an academic medical center. The parent-report Junior Temperament Character Inventory (JTCI), a 108-item questionnaire that assesses temperament and character in youth, was administered. Participants were divided into: 1) OCD only; 2) OCD+ADHD/TS (ADHD or TS); 3) OCD+ADHD+TS (ADHD and TS). The three clinical groups were compared to published controls using t-tests; next, a test of trend examined if temperamental traits showed a clinical worsening gradient based on the three groups. The same analyses were repeated four times for the following groups: male only, female only, school-age (6-11), and adolescents (12-18). Post-hoc analyses included the effect of sex and age on comparisons using linear regression. **Results:** The sample comprises 70 youth (62.9% males) between the age of 6 to 18 years ( $12.37 \pm 3.11$ ) and includes 28 OCD Only, 28 OCD+ADHD/TS, and 14 OCD+ADHD+TS. Compared to controls, NS is significantly elevated only in the

highly comorbid OCD+ADHD+TS group ( $p < 0.01$ ), and HA is significantly elevated in all three comorbid groups ( $p < 0.001$  for all three). Analyses by sex and age groups do not influence the results. When comparing trends by comorbid conditions, a significant upward trend is present in NS (OCD < OCD+ADHD/TS < OCD+ADHD+TS) and a significant downward trend in P (OCD > OCD+ADHD/TS > OCD+ADHD+TS), showing that greater morbidity correlates with higher exploratory behaviors/impulsivity (NS) and lower perseverance/hard-working traits (P) in pediatric OCD. **Conclusions:** Temperamental traits can be used to refine the phenotype of pediatric OCD. Higher NS is tied to the presence of ADHD and TS, with additional comorbidities producing an increase in this trait. Biological correlates for pediatric OCD may respond to temperamental trait measures, which are reflective of pediatric OCD comorbidities ADHD and TS.

#### **No. 114**

##### **Termination of Pregnancy for Medical Reasons: A Mental Health Perspective**

*Poster Presenter: Amelia Wendt, M.D.*

*Co-Authors: Mary Shickich, Laura LaPlante*

##### **SUMMARY:**

**Background:** Termination of pregnancy for medical reasons (TFMR) is a pregnancy terminated due to (a) medical complications threatening the health of the pregnant individual and/or fetus or (b) poor prognosis or life-limiting diagnosis in the fetus. Unlike abortions more broadly, negative psychological outcomes are common in the months following TFMR. Our goal was to utilize a literature review and survey of cross-disciplinary residents to create a didactic on TFMR for trainees. **Methods:** A survey was designed and distributed at the authors' institution to assess OB/GYN, family medicine, and psychiatry residents' knowledge, attitudes, beliefs, and practices regarding TFMR. Survey data, the results of our literature review on the mental health outcomes related to TFMR, and one author's clinical experience were utilized to create and implement a didactic for trainees. A post-intervention survey was distributed to psychiatry residents after the didactic. **Results:** The literature showed that negative

psychological outcomes are common in the months after TFMR: nearly half of women experience PTSD symptoms and approximately one fourth experience depressive symptoms at 4 months post-termination. Individuals with a history of trauma, prior psychiatric diagnosis, and/or no living children are at greater risk; self-blame, high level of doubt during decision-making, and initial high distress level are also risk factors. Interventions for negative psychological outcomes should be specific and targeted to TFMR. We received 19 pre-survey responses: while nearly all identified screening/discussion of TFMR (17/19) and associated mental health aspects (19/19) as part of their responsibility and important (18/19), barriers included unfamiliarity with resources, little/no clinical experiences, insufficient training, and lack of time. Consistent with the reported minimal education/training on the topic, 13/19 and 19/19 underestimated the rates of depression and PTSD, respectively, in the months after TFMR, and respondents reported being less prepared to address TFMR versus other topics with patients. Few respondents reporting regularly screening for TFMR, and the majority reported being either not at all familiar or minimally familiar with local (16/19) or online (16/19) TFMR resources. Furthermore, only 1/3 of respondents correctly identified referral should be to a TFMR group rather than a general pregnancy loss group. We received only 2 post-intervention surveys, precluding pre- and post-comparisons. **Conclusions:** Negative psychological outcomes are common in the months following TFMR and are associated with a number of risk factors. Surveyed residents identify screening for and discussion of TFMR and associated mental health aspects as important, but cite barriers and limited familiarity with resources. Provision of a targeted didactic may be one way to increase comfort with this topic and knowledge of community and online resources, thus improving patient care.

#### **No. 115**

##### **The Benefits of the Multicultural Mind: The Interaction Between Culture and Cognitive Flexibility**

*Poster Presenter: Pascale Carina Bockelmann, B.A.*

**SUMMARY:**

Introduction. Cognitive flexibility, the ability to adapt to situations in creative ways and shift attention between responses or perspectives, is a field of growing importance in a world where globalization and multiculturalism dominate. The resilience CF confers is of relevance to the domains of development, cognition, and the medical sciences. Though CF has been hypothesized to be enhanced by language switching, results are inconclusive and currently, multi-cultural exposure shows the most promise as an explanatory mechanism. Research Question. We aimed to assess the relationship between exposure to multiple cultural environments and CF capacity. Hypothesis. We hypothesize that multicultural experiences will positively predict higher cognitive flexibility. Methods. Study Design. We compared CF capacity performance between a multicultural and a monocultural participant group across three higher and lower order CF measures: the Task Switching Paradigm Test, the Alternative Uses Task and Divergent Association Task. Lower-order CF refers to more simplistic, brain-based functions related to executive functioning while higher-order CF refers to more global, complex, brain functions. A sociocultural demographics survey categorized participants as Multicultural's, those who lived in at least three different cultural environments and monocultural's, those who have only lived in one cultural environment. We viewed this study from the theoretical framework of inconsistency resolution which suggests reconciliation between conflicting cultural viewpoints may confer cognitive flexibility advantages. Sample. Our sample was psychology undergraduates (N = 111); (n = 51) monocultural and (n = 60) multiculturals. Results. Data analysis with an independent sampled t-test showed trends of multicultural scoring higher than monocultural on all three higher and lower order CF measures. However, only multicultural performance on a component of the TSPT was significantly different. Namely, the letter sub-score, which tests attentional control with letter stimuli. Conclusion. Future studies are needed to confirm the pattern of findings with larger sample size. Furthermore, the environments from which participants are recruited need to be more controlled to ensure true multicultural and monocultural exposure. Overall, our study shows

multicultural backgrounds may play a role in CF capacity. In particular, our study highlights the potential of the inconsistency resolution framework to be an explanatory model for CF strengthening.

**No. 116****The Effects of Long-Acting Injectable Antipsychotics in Preventing Relapse Versus PO Antipsychotics in Bipolar and Schizoaffective Patients**

*Poster Presenter: Soulin Haque*

*Co-Authors: Pajtesa Kukaj, M.D., Asghar Hossain*

**SUMMARY:**

Long-acting injectable antipsychotics (LAIs) have been in use since 1966 to increase adherence of medication for patients in psychiatry. Research has shown that in schizophrenic patients, using LAIs instead of oral antipsychotics improve clinical outcomes and reduce morbidity, especially in the early schizophrenic phase. We did a comprehensive systematic review of LAIs and their success in patients with bipolar disorder and schizoaffective disorder compared to oral antipsychotics. The research for the meta-analysis was completed electronically via databases including Pubmed, NCBI, JAMA, and WILEY. There was no year limit regarding LAIs' effect on patients' mood stabilization and improvement in symptoms. Risperidone LAI was effective for preventing mania for bipolar disorder I and schizoaffective disorder, but not as effective for treatment of depressive symptoms. Aripiprazole monohydrate was also effective for reducing manic recurrences for bipolar I disorder. Paliperidone LAI - both monotherapy and adjunct therapy has shown to delay psychotic, depressive, and manic recurrences in schizoaffective disorder. Furthermore, bipolar patients receiving LAIs had higher medication adherence and less discontinuation risk. These studies have shown that LAIs have a significant benefit compared to oral antipsychotics in preventing relapse. This suggests that LAIs versus oral antipsychotics are more beneficial in clinical outcomes for patients with bipolar disorder and those with schizoaffective disorder.

**No. 117**

**The Impact of COVID-19 on Psychiatric Inpatients at a Large County Hospital: Race, Gender, Legal Status, and Referral Source**

*Poster Presenter: Sagarika Arogyaswamy*

*Co-Authors: Teresa Nolfi, David Seigler*

**SUMMARY:**

Background: The COVID-19 pandemic had varying impact on inpatient psychiatric admissions around the world. There is evidence that the mental/behavioral health of Black, Hispanic, and younger individuals was disproportionately impacted by the COVID-19 pandemic. A pandemic brings unique ethical considerations to involuntary hospitalization. To our knowledge, no study in the United States has investigated the impact of COVID-19 on psychiatric referral from law enforcement. Purpose: This retrospective chart review of admitted psychiatric inpatients to a county hospital evaluated differences in race, gender, and age before and after California's stay-at-home policy, used as a proxy to when the pandemic began impacting daily life. We also compared legal status and referral source with before and after the stay-at-home policy. Methods: IRB approval was obtained, and patient-level data was taken from the electronic medical record for all admitted psychiatric inpatients from March 19, 2019, to March 18, 2021. Data was cleaned and then analyzed using SPSS. Results: This analysis included 6184 patients, of whom 46.9% (n=2901) were admitted from March 19, 2019, to March 18, 2020 (mean age=37.39, 62.4% male, 35.1% White, 23.6% Black, 34.6% Hispanic, 6.8% Other) and 53.1% (n=3283) were admitted from March 19, 2020, to March 18, 2021 (mean age=36.15, 64.7% male, 30.2% White, 24.4% Black, 39.0% Hispanic, 6.5% Other). We found no significant gender differences of patients before and after the stay-at-home policy. However, we found a significant decrease in the percentage of White patients admitted after the stay-at-home policy and a significant increase in the percentage of Hispanic patients admitted after the stay-at-home policy. We also found a significant increase in the percentage of admitted patients who were brought to the hospital by law enforcement. There was no significant change in the percentage of admitted patients who were under voluntary or involuntary legal status. A limitation of our study is

that we reviewed admitted psychiatric patients within a single county hospital. However, our research has many strengths including the large sample size, the emphasis on race and gender, and the review of legal status and referral source before and after the stay-at-home policy. Conclusion: Our research has implications for which individuals to target through community initiatives in the future during similar disease outbreaks. We also add important information to a sparse literature regarding the impact of the pandemic on admitted psychiatric patients referred by law enforcement and the legal status of admitted psychiatric patients.

**No. 118**

**The Impact of the Psychiatry Medical Student Scholars Program on Career Outcomes**

*Poster Presenter: Wan Yee Kwok, B.A.*

*Co-Authors: Nico Moftakhar, B.S., Peirce W.*

*Johnston, M.D., Melissa P. Del Bello, M.D., Brian Evans, D.O.*

**SUMMARY:**

**Abstract: Background:** Physicians are key players in the field of psychiatric research. Given the increasing emphasis placed on evidence-based medicine, recruiting medical students to do research in their field of study early on in their careers can contribute to both increased research literacy and increased interest in future research. In this project, we describe the *Psychiatry Medical Student Scholars Program* (MSSP) at University of Cincinnati College of Medicine and report its impact on student career outcomes over the last nine years. **Methods:** The goal of Psychiatry MSSP is to increase student interest in psychiatry and psychiatric research. This program offers first-year medical students an opportunity to explore psychiatry and behavioral neuroscience research with a mentor over four years, as well as a funded 5-week (\$2000) summer research experience. Additionally, it allows motivated students to gain clinical experience in psychiatry early in medical school. Students also participate in journal club, rounds, and clinical and research lectures. Unlike many other programs, the Psychiatry MSSP makes an effort to accept all students interested. Forty-seven current medical student participants and alumni of MSSP were

invited to complete an online survey via SurveyMonkey to assess the impact of the program on their interest in psychiatry and research. **Results:** Nineteen MSSP alumni graduated medical school and 28 are still in medical school. Nine out of nineteen (47%) MSSP alumni who have graduated medical school went into psychiatry. In the first year of the program there was one student participant. Last year there were nine student participants and the maximum number of student participants per year was eleven. Both graduated alumni and current MSSP participants report that the program has been valuable in making a decision on their future career and had increased interest in psychiatry and research. Additionally, the program is successful in having students present their research through poster presentations and other publications. More specific results from the survey will be presented. **Conclusion:** Programs for medical students interested in psychiatric research help foster interest in the field. Such programs also allow for medical students to gain early exposure to psychiatry, which students find valuable in making important future career decisions. The components of this program described can be replicated at other institutions to develop early career exposure to psychiatric research.

#### No. 119

##### **The Influence of Sociodemographic Factors on Help-Seeking for Depression: 2017–2020 Korean Community Health Survey**

*Poster Presenter: Ji-Ae Yun*

*Co-Author: Kyeong-Sook Choi*

#### **SUMMARY:**

**Background:** When an individual is faced with psychological difficulties that exceed their own resources, communication with professionals such as mental health treatment can be an effective way to overcome the difficulties. However, only a few people receive treatment for depression. The goal of the present study was to explore the help-seeking behaviors of people with depressive symptoms and the factors influencing their help-seeking behaviors. **Method:** This study used Korean Community Health Survey (KCHS) raw data obtained from 2017 to 2020. 6,505 employees (excluding military service person)

who felt sad or hopeless enough to cause problems in their lives for more than two weeks and who scored more than nine points on Patient Health Questionnaire-9 (PHQ-9). The help-seeking behavior has been measured as receiving counseling from professions (medical institutions, professional counseling institutions, public health centers, etc) because of sadness or hopelessness. **Results:** Of the 6,505 people with depression, only 1,781 (27.38%) have received expert counseling (medical institutions, professional counseling institutions, public health centers, etc) due to depression. Multiple logistic regression models controlling for subjective stress and severity of depressive symptoms revealed that Male, aged 45-64 or 65-74, individuals who do not receive national basic security, and less educated individuals were more likely to do not seek help for depression. **Conclusion:** Our study found that help-seeking behavior for depression in Korean general population presented low. We also identified the characteristics associated with depressed people who do not receive help from mental health professionals. The results of this study provides the insight into national intervention to increase help-seeking behaviors for depression. \*This work was supported by the Research Program funded by the Korea Disease Control and Prevention Agency. (fund code 2021-11-020).

#### No. 120

##### **The Medical and Psychiatric Costs of Delayed Diagnosis of Tic Disorders**

*Poster Presenter: Elizabeth Anne Deckler, M.D.*

*Co-Author: Zelde Espinel, M.D.*

#### **SUMMARY:**

**Objective:** As many as 5-in-6 patients with Tourette's syndrome have comorbid psychiatric disorders and many Tourette's patients also have comorbid medical conditions. Evaluation of Tourette's is often overlooked leading to a delay in detection and diagnosis of Tourette's and associated medical and psychiatric conditions. We reviewed the literature regarding comorbidities associated with Tourette's in both the pediatric and adult populations. **Methods:** A literature search was performed using Pubmed to identify articles published from 2017-2021 regarding medical and psychiatric

comorbidities associated with Tourette's. Inclusion criteria were: 1) studies published within the past 5 years, 2) studies that evaluated patients with tic disorders, or Tourette syndrome specifically, and 3) studies that reported psychiatric and/or medical comorbidities associated with the disorders. **Results:** Four studies met the specific criteria to be included in our review. The findings from those studies indicated an association between Tourette's and several medical conditions including type two diabetes, cerebrovascular disease, cardiac arrhythmias, and ischemic heart disease. The increased risk was apparent even in childhood. In addition, Tourette syndrome is speculated to be an autoimmune disease, and therefore, may be linked to other comorbid autoimmune disorders. Findings also revealed elevated risk for psychiatric conditions including substance use disorders, obsessive-compulsive disorder, and depression as well as diminished self-esteem. Self-esteem was worsened by comorbid psychiatric illnesses, and once those comorbid conditions were adequately treated, self-esteem improved. These studies highlight the fact that early diagnosis of tic disorders can lead to treatment of the condition and its comorbidities and decreasing psychological distress. **Discussion:** Tic disorders often go undiagnosed in patients. Research has shown that patients with tic disorders are at an increased risk of medical comorbidities such as ischemic heart disease, cardiac arrhythmias, cerebrovascular disease, and autoimmune disease. Data has also shown that patients with tic disorders are very likely to suffer from at least one comorbid psychiatric disorder. Without a known diagnosis of tic disorder, practitioners may not be aware of a patient's risk of developing concerning conditions in the future. The delay in diagnosis of tic disorders impacts not only the treatment of the primary condition, but it also delays preventative measures and possible active interventions of comorbid medical and psychiatric conditions.

#### **No. 121**

#### **The Role of Fluvoxamine in the Treatment of COVID-19: A Review and Pooled Analysis**

*Poster Presenter: Chintan Trivedi, M.D., M.P.H.*

*Co-Author: Zeeshan Mansuri*

#### **SUMMARY:**

**Introduction** The role of serotonin has recently been the topic of interest in the management of COVID-19 [1,2]. Our study objective is to summarize two recently published studies where the role of 'fluvoxamine' was evaluated in the treatment of COVID-19. Secondary goal was to discuss the potential risk of serotonin syndrome. **Methods** Data on demographics and the total number of patients and patients with clinical deterioration/hospitalization were collected from these studies. Pooled analysis was performed for the fluvoxamine effect on clinical deterioration using the inverse variance method in the fixed-effect model included in the Review Manager 5.2 software.

**Results** In the recently published randomized placebo-controlled clinical trial, fluvoxamine was used for the mildly symptomatic COVID-19 patients with less than 1 week of symptom onset and SaO<sub>2</sub>  $\geq$  92% [3]. For the study, 152 patients were included with a mean age of 46 and 72% female. The dose of fluvoxamine was 50-100 mg. On the 15th day of the assessment, 8.3% of patients reported clinical deterioration in the placebo group and no clinical deterioration was reported in the fluvoxamine group. Serious adverse events were less in the fluvoxamine group (1.3% vs. 6.9%, p:0.05) compared to placebo. The second study was an open-label prospective study which showed that the early treatment of COVID-19 with fluvoxamine (N=113; median age:42, female:25%) is associated with no hospitalization compared to 12.5% in the placebo group [4]. In the study, the dose of fluvoxamine was 50-100mg. No serious adverse events were reported in this study. In the pooled analysis from both the studies, fluvoxamine was associated with a 94% reduction in the risk of clinical deterioration (Odds Ratio: 0.06, p:0.006). In COVID-19 patients, a mechanism for platelet aggregation is the release of serotonin from these granules [5,6]. Due to this process, the serotonin level in the plasma increases, and the serotonin level decreases inside the platelets [7]. Thus, the clinicians need to be vigilant for serotonin syndrome symptoms with fluvoxamine, particularly at a later stage of COVID-19 when there is already a robust immune response and a higher level of serotonin in the plasma. **Conclusion** The efficacy of fluvoxamine is very impressive; however, there are few limitations. The

major limitation is that the evidence came from only two studies, where one is a non-randomized study. In both the studies, only patients with early-onset and mild symptoms were included. Despite these limitations, both these studies are very important for the ongoing advancement in the treatment of COVID-19 and will help design a future large-scale randomized clinical trial.

#### **No. 122**

##### **The Role of Insomnia and Social Withdrawal in Predicting Suicidal Ideation in the Wake of COVID-19**

*Poster Presenter: Gabriella Epshteyn, M.A.*

*Co-Authors: Anokhi Bafna, Megan Rogers, Ph.D., Igor I. Galynker, M.D., Ph.D.*

#### **SUMMARY:**

##### **The Role of Insomnia and Social Withdrawal in Predicting Suicidal Ideation in the Wake of COVID-19**

Gabriella Epshteyn, MA,<sup>1,2,3</sup> Anokhi Bafna BFA,<sup>2</sup> Megan L Rogers, PhD,<sup>2</sup> & Igor Galynker, MD, PhD<sup>2</sup>  
<sup>1</sup>Teachers College Columbia University, New York, NY  
<sup>2</sup>Mount Sinai Beth Israel, New York, NY <sup>3</sup>James J. Peters Veterans Affairs Medical Center, New York, NY

**Background:** In the wake of the COVID-19 pandemic, insomnia has been found to be particularly detrimental to psychological outcomes (Que et al., 2020), especially since insomnia can be lonely (e.g., being awake when everyone else is asleep; see Hom et al., 2020). In general, insomnia has been linked to increased suicidal desire (Pigeon et al., 2012) by reducing one's feelings of connectedness with others (Chu et al., 2017). The impairments in functioning and perceived social disconnection associated with insomnia may also contribute to social withdrawal from others, thereby leading to increased suicide risk. However, this has not been empirically tested; thus, the purpose of this study was to examine whether social withdrawal would account for the relationship between insomnia and suicidal ideation. **Methods:** Participants were 418 community-based adults living in the United States who completed an online questionnaire during the COVID-19 pandemic. Ages of participants ranged from 18-83, with a mean of  $28.40 \pm 14$ . The majority of the sample was female ( $n = 382, 91.4\%$ ) White/European American ( $n = 376,$

90%), and had earned a Bachelor's degree ( $n = 195, 46.7\%$ ). Suicidal ideation was assessed using the Columbia-Suicide Severity Rating Scale (C-SSRS), whereas insomnia and social withdrawal were measured using their respective subscales from the Suicide Crisis Inventory—2 (Bloch-Elkouby et al., 2021). Indirect effects analyses were conducted using PROCESS version 3.3 in SPSS. **Results:** Insomnia was significantly associated with social withdrawal ( $B = 1.36, SE = .13, p < .001$ ), and social withdrawal was significantly related to greater suicidal ideation severity ( $B = .08, SE = .01, p < .001$ ). After controlling for the effects of social withdrawal, insomnia was no longer associated with suicidal ideation ( $B = .03, SE = .03, p = .302$ ). Additionally, the indirect effect ( $B = 0.11, SE = 0.02, 95\% CI [.07, .15]$ ) was statistically significant, indicating that social withdrawal accounted for the relationship between insomnia and suicidal ideation. **Conclusions:** Insomnia was associated with suicidal ideation through social withdrawal, indicating that, clinically, it may be beneficial to monitor patients for insomnia symptoms, and signs of social withdrawal among individuals with insomnia, to mitigate increased risk of suicidality.

#### **No. 123**

##### **The Role of Tik Tok in Promoting Diet Culture Rhetoric: A Content Analysis Study.**

*Poster Presenter: Noam Raiter*

#### **SUMMARY:**

**Introduction** Like on many other forms of social media, there is a growing community of TikTok creators speaking about their eating habits, exercise routines, and other wellness practices. Evidently, there are some features of the TikTok app that have allowed it to become so popular and pervasive in our online world, but this does not come without a cost. **Methods** This study will explore the relationship between TikTok use and health-related outcomes by describing the food, exercise, and body image messages under #HealthyLifestyle compared to #Travel. The top 250 videos in each category, "#HealthyLifestyle" and "#Travel", were analyzed using a codebook relating to topics of body image and diet culture rhetoric. We conducted descriptive statistics, chi-square analysis, effect size



measurements, and inter-rater reliability analysis. Results Videos under #HealthyLifestyle had significantly higher rates of nearly all variables compared to a control group, with the exception of “visuals of body/figure”. The most common categories observed in the experimental group were: “visuals of body and figure”, “losing fat/weight”, and “objectification”. Additionally, upon analyzing our category of contradictory messages, nearly all content with positive connotations was counteracted with other instances of negative messaging, such as objectification. Discussion All in all, these findings suggest that content under the seemingly positive hashtag is in reality promoting a variety of negative messages regarding body image, eating habits, and/or exercise routines, which may be quite harmful to individuals consuming this content. In light of the young audience consuming this social media content, more consideration must be placed on its implication on youth mental well-being.

#### **No. 124**

##### **The Silent Woman: The Limitations of Rating Scales in Distinguishing Factitious Disorder From Catatonia**

*Poster Presenter: Rachana Kelshikar*

*Co-Authors: Noah D. Villegas, M.D., Hojun Yoo, M.D.*

#### **SUMMARY:**

Background: Catatonia is a manifestation of many psychiatric disorders and has gained increased recognition in recent years. Many scales have been used to monitor this condition including the Bush-Francis Catatonia Rating scale (BFCRS). On the other hand, factitious disorder has been a challenge for physicians to diagnose, and continued clinical contact remains one of the few ways to identify this condition. There are few cases that report factitious disorder presenting as catatonia. In this report we will be examining the case of a factitious disorder patient who screened positive for catatonia using BFCRS and discuss the limitations in using this scale to distinguish between the two disorders. Method: A female of unknown age was found unresponsive by the bus stop and was brought to the ED, where she was nonverbal with limited oral intake, responsive only to painful stimuli, and able to follow few commands. The patient was admitted to medicine

for altered mental status, and after a negative medical and neurological workup, psychiatry was consulted. The patient presented with immobility/stupor, mutism, and staring with a BFCRS of 6. She refused to eat, drink, shower, or take medications by mouth. The patient was diagnosed with catatonia. She was transferred to the inpatient psychiatric unit where the inpatient psychiatry team was able to contact the PACT team who identified the patient. They reported a diagnosis of schizophrenia and factitious disorder, where the patient would act catatonic “to be taken care of”. The patient failed the lorazepam challenge test, and the patient was tapered off of ativan. Patient began a recovery process with a more proactive approach in engaging and stimulating the patient. Results/Labs: Medical workup including utox, troponins, lumbar puncture, and head CT were negative. The patient’s catatonia was rated a 6 on the BFCRS, including stupor, mutism, and staring. Patient was placed on TID dosing of ativan and her immobility worsened. Chart review along with collateral supported reducing ativan to decrease her symptoms. Ativan was tapered and risperidone was uptitrated with reversal of her symptoms. Conclusion: In this patient with an initial BFCRS score of 6 and negative medical and neurological workup, the patient was treated for catatonia. Once additional history was obtained, the diagnosis shifted and a different approach was needed. While BFCRS is a useful tool for screening for catatonia and monitoring the treatment effectiveness, it has limitations in distinguishing it from factitious disorder. Given the sedating effects of ativan, the medical therapy for catatonia most likely enhanced the manifestations of this patient’s factitious disorder. Distinguishing between these disorders is important in decreasing medication induced side effects and ultimately utilizing hospital resources efficiently. More research needs to be done to differentiate catatonia from factitious catatonia in standardized rating scales.

#### **No. 125**

##### **The Viability of Educational Simulation of Auditory Hallucinations in the Era of Remote Learning**

*Poster Presenter: Christopher Scott Czapl, M.D.*

## SUMMARY:

**Background:** Modules designed to simulate auditory hallucinations (AH) have been shown to be favorable to learners and effective at reducing stigma against patients who suffer from AH. The COVID-19 pandemic forced direct, in-person education, including psychiatric education, to suddenly transition to distance learning for the safety of students, teachers, and communities. This analysis aimed to assess the viability of hearing voices simulations as a tool to educate remote learners.

**Methods:** Hearing voices modules were held as a component of didactic education for clinical medical students on their psychiatric rotation. Sessions were held in-person with a direct interview simulation component prior to the initiation of distance learning requirements at the start of the COVID-19 pandemic and remotely omitting the direct interview simulation after distance requirements were enacted. All students were given anonymous surveys on the quality of the session the day after the activity. Surveys asked students to categorize the activity as “excellent,” “very good,” “good,” “fair,” or “poor,” and give subjective, narrative feedback. A chi-square test of independence was performed to examine the relationship between categorical feedback on 6 sessions of the AH simulation that were conducted in person and 6 sessions that were conducted remotely. Subjective feedback was reviewed on these sessions. **Results:** 196 students submitted feedback on the AH simulation. 88 were submitted on sessions conducted in person, and 108 were submitted on sessions conducted remotely. Response rate was 94.6% in-person sessions and 89.3% for remote sessions. The chi-square test showed no significant association between student evaluations and whether the session was in-person or remote. Subjective comments were similar in both groups. **Discussion:** Simulations of AH are well-received by medical students on psychiatry rotations. Possible reasons for this favorability include preference for experiential learning and the effectiveness of these simulations. This favorability extends to simulations that are conducted remotely. This preserved favorability suggest areas for future psychiatric educational innovation including those that utilize other technological means of simulating psychiatric symptoms.

## No. 126

### Therapeutic Alliance in Adolescents at High Risk of Mood Disorder Undergoing Family-Focused Therapy

*Poster Presenter: Nicole Rose Wong, B.S.*

*Lead Author: David J. Miklowitz, Ph.D.*

*Co-Authors: Kayla E. Carta, B.S., Robin Brown, B.A., Gabrielle Halim, B.A.*

## SUMMARY:

**Background** Adolescents with a family history of bipolar disorder (BD) who have active mood symptoms are at high risk for developing BD as they reach young adulthood, suggesting the importance of early intervention. FFT, consisting of 12 weeks of psychoeducation, communication training, and problem-solving training, has been associated with longer well intervals between mood episodes and lower rates of suicidality in high-risk youth. However, the “active ingredients” of FFT are not well understood. Therapeutic alliance, one of the most powerful determinants of a successful outcome in individual psychotherapy, has not been investigated in relation to outcomes of FFT. This study is part of a long-term project that will examine the correlation between alliance and clinical outcomes of FFT among high-risk youth. We hypothesized that alliance scores would increase from early to late in treatment, and that parent alliance scores would be greater than their offspring because parents often initiate FFT. **Methods** Using a sample of 16 adolescents with a family history of bipolar or unipolar mood disorder, all of whom received FFT, 4 raters rated alliance between therapists and adolescents and their parents along 4 subscales: Engagement in the Therapeutic Process; Emotional Connection to the Therapist; Safety in the Therapeutic System; and Shared Purpose in the Family. We used paired sample *t* tests to compare alliance ratings between parents and adolescents at 2 time points: T1 (range session numbers 1-6, median 3) and T2 (range 7-12, median 8). **Results** Mean engagement ratings of parents were significantly higher than those of adolescents at T1 and T2 ( $t = -3.87$ ;  $df = 31$ ;  $p = 0.002$ ;  $t = -3.55$ ;  $df = 29$ ;  $p < 0.001$ ). While adolescent alliance ratings did not vary significantly from T1 to T2, both parent and whole-family alliance ratings numerically increased from T1 to T2. **Conclusions** Parents exhibited more

engagement throughout FFT relative to their offspring. Alliance between parents and therapists, as well as the family's shared sense of purpose, increased from the beginning to the end of treatment. Alliance may correlate with symptomatic outcomes of adolescents undergoing FFT.

**No. 127**

**"There Is a Snake in the Room": Occult Racism as a Main Reason of Difficult to Treat Depression DTD**

*Poster Presenter: Lama Muhammad, M.D.*

**SUMMARY:**

**Background:** Historically the race concept was invented to justify the slave trade. While overt racism is the "elephant in the room", occult racism is the snake in it and it is the most common form of racism in the globalization time. It usually appears through nonverbal communication. Depressed patients from ethnic minorities are likely to have experienced occult racism. While many physicians stand against racism, few understand that occult racism can directly change the nature of the mental disorder and can easily lead to what is commonly called treatment-resistant depression TRD. **Method:** The presenter will discuss DTD as one of the occult racism consequences. The presenter will define occult racism and explore a cultural approach for management in such cases. **Results:** Case 1: A 30-year-old immigrant male has been diagnosed with DTD, with no response to TMS. The patient was transferred for a second opinion about ECT. Patient reports that he has been suffering from "racism" at work: "No one is saying anything, it is all about being excluded". Patient's depression got better after five cultural psychotherapy sessions. Case 2: A 47 y/o female patient with difficult to treat depression revealed her concerns about social justice and her fears of being in crisis as "the police system is scary to immigrants population, didn't you watch the news?". Further history supported interdependent culture. The patient got better after getting her daughters involved in her management. Case 3: An Arab psychiatric resident was screening for homicidality. The patient replied with a smile: "Yes I may kill some Arabs if I can", then continued "kidding I don't have any homicide ideation". The resident continues to care for the patient who

apologized later and thanked him for helping. The resident didn't share this story for months, when asked why he replies "why to share it, nothing will be changed". **Discussion:** No assent definition existed for treatment-resistant depression and commonly the term refers to inadequate response to at least two antidepressant trials of adequate doses and duration. Difficult-to-treat depression" (DTD) is more accurate and more empathetic than treatment-resistant, as by admitting the difficulty in the management, psychiatrists are recognizing their failure in uncovering all the root causes of the disorder. Considering the occult racism as a reason behind DTD can lead to better management, therefore better prognosis. Racism was designed to support an economic and social system for those at the very top. Occult racism is the aversive type of racism, it leads to weak morale and DTD. The interdependent culture concept is very important and should be considered in such cases. **Conclusion:** DTD can be caused by occult racism. Optimal treatment in such cases is possible with greater recognition of occult racism's varied social presentations.

**No. 128**

**Thought Block as a Manifestation of Catatonia: A Case Report**

*Poster Presenter: Omar Elmarasi, M.D.*

*Lead Author: Yassir Osama Mahgoub, M.D.*

*Co-Author: Nirmal Singh, M.B.B.S.*

**SUMMARY:**

**Introduction:** Catatonia is a complex psychomotor syndrome with multiple motor and behavioral manifestations. Catatonia literature has few descriptions of thought disorders in catatonia, mainly in the form of stupor and thought perseveration. Thought block is a thought disorder characterized by sudden obstruction in or loss of thought during the flow of speech. Thought block is often described as a psychotic manifestation in schizophrenia. We are presenting a case of a patient with bipolar disorder who presented with catatonia and had a prominent thought block that resolved with treatment with Lorazepam and worsened upon discontinuation. **Methodology:** a case report. **Case report:** A 47-year-old female with no significant PMH

and past psychiatric history of bipolar disorder. She has been maintained on Lamotrigine 100 mg QHS and Quetiapine 50 mg QHS for years. She was hospitalized for worsening paranoia, acting oddly, bizarre behavior, restlessness that alternated with psychomotor retardation, and losing 14 lb over 4 weeks due to poor oral intake. On evaluation, she demonstrated significant indecisiveness and ambivalence, restlessness, and prominent thought block. This was demonstrated by answering questions briefly that was followed by long pauses accompanied by staring, where she appeared to be lost. There was occasional thought perseveration on not changing medications, and mannerisms in the form of responding by whispering. A diagnosis of catatonia was suspected, and she scored 15 on BFCS. The patient was started on a low dose of Lorazepam 0.5 mg bid, and her Quetiapine was increased to 100 mg QHS. She showed dramatic improvement of catatonic features accompanied by resolution of thought block. She stopped Lorazepam for reported tiredness and this resulted in the reemergence of the previous symptoms, including thought block. Lorazepam was resumed and Quetiapine was switched to Risperidone and her symptoms improved and subsequently, she was discharged.

**Discussion:** Kahlbaum described catatonia as a psychomotor illness with motor, affective and behavioral alterations. Multiple catatonia rating scales point to underlying thought alterations with symptoms of mutism, perseveration, ambivalence, and compulsive behaviors, etc. Thought abnormalities in catatonia are often overlooked and at times difficult to differentiate from formal thought disorders. Misdiagnosing catatonia presenting primarily with thought abnormalities has downstream implications for treatment, as catatonia responds very well to Lorazepam and ECT.

**Conclusion:** · Thought block might be a manifestation of catatonia · Thought block might improve with Lorazepam. · Further studies should focus on thought manifestation of catatonia.

#### No. 129

#### **Tourette Syndrome Is Commonly Missed, Leading to Treatment Delays**

*Poster Presenter: Elizabeth Anne Deckler, M.D.*

*Co-Author: Zelde Espinel, M.D.*

#### **SUMMARY:**

**Objective:** According to the Centers for Disease Control and Prevention, approximately half of children with Tourette syndrome are undiagnosed. A study examining the prevalence of Tourette syndrome in children between the ages of 6 and 17 found a prevalence of 135,000 children diagnosed with the disorder between the years 2016 and 2017. However, 0.6% of children in the population suffer from Tourette syndrome, meaning that about 50% of children with diagnosable Tourette syndrome were undiagnosed. In our review of the literature, we searched for an answer as to why so many cases of Tourette syndrome are undiagnosed or misdiagnosed. Based on the substantial psychosocial benefit patients are deprived of by not being treated for the disorder, we believed that the review was warranted. **Methods:** A literature search was performed using Pubmed to identify articles published from 2011-2021 regarding lack of diagnosis or misdiagnosis of Tourette's syndrome. Inclusion criteria: 1) studies published within the past 10 years, 2) studies that evaluated patients with tic disorders, or Tourette syndrome specifically, and 3) studies that focused on misdiagnosis or a lack of a diagnosis in patients with these disorders. **Results:** Three studies were found that met the criteria of our literature review. The findings from those studies indicate that tic symptoms can often be misdiagnosed. Research showed that tics can be mistakenly diagnosed as compulsions. Despite the clear distinction between symptoms of obsessive-compulsive disorder and tics, many aspects of the symptomatology overlap between the two disorders. Similar "just right" feelings may be experienced after either compulsions or tics are performed. Repetitive motor tics can be difficult to distinguish from physical compulsions. It can also be difficult to differentiate tics from jerky movements such as myoclonus or psychogenic jerks. Even experienced clinicians have difficulty agreeing on a diagnosis. It has been recommended that a team of clinicians diagnose patients with jerky movements to increase overall accuracy. The diagnosis of Tourette's can also be delayed. Patients with functional neurological disorders often experience significant delay in proper diagnosis and when identified as having Tourette's, the conditions is not always adequately explained to the patient.

*Discussion:* Research has suggested that failure to properly diagnose patients suffering from tics is likely due to the overlap between tic disorders and other psychiatric and neurological conditions. Motor tics may be misdiagnosed as compulsions secondary to obsessive compulsive disorder. The research has also found that jerky movements are diagnosed as different disorders among experienced clinicians. Further research and outreach are needed to increase awareness and understanding of tic disorders.

**No. 130**

**Treatment of Delirium and Bipolar I Disorder in a Patient With Lithium Induced Nystagmus With Concurrent Pancytopenia: A Psychiatrist's Quandary**

*Poster Presenter: Anmol D. Bhatia, D.O.*

*Co-Author: Timothy Kiong*

**SUMMARY:**

**Introduction:** Persons with Bipolar I disorder present with high rates of coexisting medical conditions (Carvalho, 2020). This increase in the burden of illness is made more complex when patients are medically ill and the complications make it difficult to utilize certain psychotropics. Lithium is the drug of choice and first line for prophylaxis, maintenance and management of acute mania in bipolar disorder. Although it has a high success rate in treating bipolar disorder, it is associated with hematological and neurologic complications which may lead to worsening of prognosis (Zaworski, 2017). Psychiatrists must also be mindful of potential hematologic complications of the adjunct psychotropics they prescribe. The drug induced blood dyscrasias may involve one, two or all three major cell lines of hematopoiesis (i.e. erythrocytic, myeloid, and megakaryocytic) (Stubner, 2004).

**Purpose:** We present a case of a 30 year old patient with a history of bipolar disorder presenting with life-threatening pancytopenia of unknown cause with concurrent lithium induced nystagmus and tremor at nontoxic lithium levels. Discontinuation of all psychotropic agents, along with repletion of copper and other vitamins, eventually resolved the pancytopenia and improved the lithium induced neurologic sequelae. However, this was followed

with development of psychotic symptoms which worsened with discontinuation of her previous psychotropics. The patient was eventually started on scheduled haloperidol and hydroxyzine as needed with marked improvements in her psychotic symptoms. **Discussion:** Choosing an appropriate psychotropic medication for the management of delirium and bipolar disorder in this patient was particularly challenging as literature suggests that many psychotropics are associated with blood dyscrasias. To complicate things further, the patient had concurrent lithium induced nystagmus and tremor which limited its use in this setting. However, as the patient's psychotic symptoms worsened, a risk/benefit analysis yielded in the way of the patient receiving haloperidol without much complications. **Conclusion:** Our case highlights the complexity of managing delirium and bipolar I disorder in a patient with lithium induced nystagmus and tremor in the setting of life-threatening pancytopenia. It also brings to attention the importance of weighing out risk/benefits of interventions in these evaluations.

**No. 131**

**Treatment of Missed ADHD With Significant Improvement in Three Adult Females With Mild Autism Spectrum Disorder and Recurrent Suicidality**

*Poster Presenter: Saras C. Singh*

*Co-Authors: Imaima Casubhoy, Jessica A. Hellings*

**SUMMARY:**

**Background:** Attention deficit hyperactivity disorder (ADHD) is often missed in adults, especially in females, including those with autism spectrum disorder (ASD). Antidepressants including selective serotonin reuptake inhibitors (SSRIs) may be activating in ASD and may worsen psychiatric problems including suicidality. **Methods:** We describe 3 adult females with mild ASD presenting on antidepressants, antipsychotics, and mood stabilizers who tested positive for ADHD on the Adult ADHD-RS and met DSM-5 criteria for ADHD, however untreated. Each had significant environmental stressors, impulsivity and recurrent suicidality. We extracted their demographic data, diagnoses, medications at start and end, and outcomes on the Clinical Global Impressions-Improvement (CGI-I) subscale. ADHD medications

are a focus of each case, together with very cautious, gradual antidepressant taper. **Results:** All cases met DSM-5 criteria for mild ASD, ADHD-RS ratings for ADHD, and presented with mood disorder diagnoses. Final CGI-I on all 3 cases was Much Improved. **Case 1:** 18 yr WF presented with failure in education, work, and independent living accompanied by hopelessness and intermittent suicidal ideation (SI). Atomoxetine (ATX) was added and bupropion XL tapered gradually, with improvement. Aripiprazole was also tapered gradually. Later, mixed amphetamine salts were added, with more improvement. Further environmental stressors resulted in an ED visit for SI and bupropion XL was increased, resulting in manic-like symptoms, which responded to dose reduction, and individual therapy. **Case 2:** 33yr WF with stressors of residential living and interpersonal problems presented with recurrent outbursts, police calls and ED visits for hopelessness, SI and homicidal threats. Medications at presentation included antidepressants (bupropion XL), aripiprazole and lithium. ATX was added and gradually increased, and bupropion and lithium were tapered off, producing improvement. However she worsened again with more stressors, was admitted and ATX was tapered off. Following discharge, ATX was restarted and increased to 40mg qam, 25mg qhs with much improvement and better ability to ignore others, and holds a job. **Case 3:** 24 yr WF presented with life stressors of residential living and family stressors, poor frustration tolerance, on antidepressants (sertraline 200mg daily, doxepin 10 mg daily), antipsychotics, and mood stabilizers. She had recurrent ED visits and hospitalizations for SI, until she was started on ATX followed by cautious, taper off antidepressants, producing significant improvement. Final ATX dose was 40mg qam, 25mg qhs. **Conclusions:** Suicidality can be due to causes other than mood disorders, including environmental stressors, and impaired frustration tolerance associated with ADHD. Diagnostic assessment for ADHD, use of the Adult ADHD-RS, and treatment with ADHD medications as well as cautious antidepressant taper under surveillance may be important in improving outcomes.

## No. 132

### Underutilization of Electroconvulsive Therapy Among Minority Patients With Mood Disorders

Poster Presenter: Rongyi Sun

Co-Authors: Yang Cai, Xueting Wang, Keming Gao, M.D., Ph.D.

#### SUMMARY:

**Background:** Although electroconvulsive therapy (ECT) plays a major role in treatment-resistant depression, there is no consensus on when to refer a patient to ECT [1]. Meanwhile, the underutilization of ECT in minorities has been reported. In a 2019 study in Texas, Caucasians were more likely to receive ECT than minorities [2]. In this study, we aim to analyze the utilization of ECT in different racial groups at a tertiary medical center, and compare the demographics, historical correlates and baseline depression severity among them. **Methods:** This study retrospectively reviews the records of all adult patients (= 18 years old) with a mood disorder diagnosis who received outpatient ECT in the Mood Disorders Program (MDP) at University Hospitals Cleveland Medical Center (UHCCMC) from January 2010 to March 2020. Patients were grouped with their race of origin as: 1) American Indian/Alaskan Native, 2) Asian/Pacific Islander, 3) Black/African American, 4) White/Caucasian, or 5) Unknown/Other. This racial distribution was compared with the racial distribution of all new patients (NPs) referred to the MDP from 2019 to 2020 using Chi Square goodness of fit. The likelihood of receiving ECT in different racial groups were also compared using odds ratio. Finally, demographics, historical correlates and baseline depression severity of different racial groups were compared using independent t-test or Chi-Square. **Results:** Among the 331 patients included, 0% were American Indians/Alaskan Natives, 0.30% were Asians/Pacific Islanders, 6.04% were African Americans, 90.03% were Caucasians, and 3.63% were unknown/other. Among the 1773 NPs, the percentage of each group was 0.11%, 1.18%, 22.90%, 69.60%, and 6.20%, respectively. The racial distributions of NPs and patients who received ECT differ significantly ( $p < .00001$ ). Caucasians were significantly more likely to receive ECT than African American (Odds ratio=6.14, 95 % CI=3.85-9.81). However, the African American and Caucasian patients who received ECT

did not differ in age, gender, marital status, education level, employment status, diagnosis (unipolar vs bipolar), age of depression onset, previous hospitalization status, history of abuse, family history of mental illness, psychiatric comorbidity, substance use disorder, or baseline depression severity measured by the 16-item Quick Inventory of Depression Symptomatology–Self Report. **Conclusion:** The results of demographics, historical correlates and baseline depression severity between African Americans and Caucasians who received ECT suggest that these ECT recipients had minimal difference. The overrepresentation of Caucasian patients among ECT recipients and the disagreement in percentages between minority patients who received ECT and those who received routine clinical care suggest that there was a racial disparity in ECT utilization. In the poster, we further review potential factors contributing to underutilization of ECT in minorities such as misdiagnosis [3].

#### **No. 133**

##### **Unique Presentation of Depersonalization/Derealization Disorder in an Adolescent With a Past History of Trauma**

*Poster Presenter: Anne-Marie Lynne Hathaway  
Co-Authors: Wajihah Memon, Heather Wurtz, M.D., Cheryl Ann Kennedy, M.D.*

#### **SUMMARY:**

A 17-year-old African-American male with no past psychiatric history presented to an urban psychiatric crisis service with recent onset of aggressive behavior, agitation, and paranoid thinking. The patient recently had ended a three-year relationship with his girlfriend, endorsed smoking marijuana with his friends afterward, and had not slept for two days prior to admission. The psychiatric team considered the differential diagnosis of substance-induced psychotic disorder, first-break psychosis, and bipolar disorder. An odd affect was noted. With collateral, it was discovered that when the patient was 13, he witnessed the death of his mother and attempted to perform CPR on her after she suffered from a fatal asthma complication. This expanded the differential to include Depersonalization/Derealization Disorder. While in the crisis unit, he continued to have

episodes of aggressive behavior and received emergency prn medications including Haldol and Ativan. In the days following, the patient presented as disorganized and incoherent with slowed psychomotor activity. He had poor hygiene and frequently urinated on himself. On his third day in the crisis unit, the patient presented without any symptoms, was coherent, and back to baseline. He described previous episodes of detaching from reality and feeling like he wasn't in his own body. This, along with his lack of supporting findings to formally diagnose him with another psychotic disorder, led to the diagnosis of PTSD with Depersonalization/Derealization. This case demonstrates a unique presentation of a disorder that is easily missed or mistaken. In this context, the diagnosis and presentation were confounded by substance use and psychiatric medications in a medically naive patient. In this poster, we discuss the importance of collecting a thorough history of childhood trauma and recognizing a prodrome of unique symptoms while keeping this diagnosis in mind.

#### **No. 134**

##### **Valproic Acid Autoinduction: A Case-Based Review**

*Poster Presenter: Narjis Mhaimed  
Co-Authors: Ayesha Choudhry, Sara Choudhry*

#### **SUMMARY:**

**Introduction** Valproic acid (VPA)c induces the activity of several metabolic enzymes that metabolize not only several other medications but also VPA resulting in autoinduction. Although there are several reports of VPA increasing the metabolism of other drugs, the clinical reports of VPA autoinduction are rare. Although different mechanisms underlying VPA autoinduction are not well-understood, protein saturation with high VPA doses may be one of the core underlying mechanisms. This review analyzes the clinical data from the published reports of VPA autoinduction and the plausible underlying mechanisms to enhance clinicians' awareness of VPA autoinduction and its management **Methods** A comprehensive literature search conducted in four data bases without any age or time restrictions. The following search terms were employed for this search:

((‘valproic acid’ OR ‘valproate’ OR ‘VPA’) AND (‘autoinduction’ OR ‘auto-induction’ OR ‘induction’ OR ‘inducibility’)). A total of 13 records were found. However, only two papers fulfilled the search criteria for this review. **Results** The literature search revealed only two papers; one was a case series comprised of three patients and the other was a case-based review that reviewed the three published cases along with a new case of VPA autoinduction. All reviewed cases were Caucasian males, with a mean age (SD) of 55.25±14.17, receiving a formulation of VPA for various diagnoses, including bipolar disorder, schizophrenia, tuberous sclerosis, and traumatic brain injury. All VPA levels in the two papers were trough levels obtained at the steady state and analyzed by their respective clinical laboratories. However, in contrast to several years of data collection for the three published cases, the VPA levels in the case-based review were obtained over 22 days. The concentration/dose (C/D) ratio was derived by dividing VPA level with the VPA dose and multiplied by 1000 to make the ratio numerically meaningful. The normal therapeutic ratio of VPA C/D ratio×1000 ranged between 112 and 132 µg/mL. **Discussion** Although the findings from this review are based on a case series and a case-based review, the clinical data provide strong support for VPA autoinduction, a complex phenomenon, which may be more common than reported in the literature. Clinicians should consider VPA autoinduction in patients with unusually low plasma levels on conventional VPA doses. Until more research addresses the complexities of VPA metabolism, the most logical way to deal with clinically challenging cases is to obtain free fraction concentrations along with total VPA levels to guide safe and effective VPA dose adjustments.

#### **No. 135**

#### **Ventricular Fibrillation Arrest as a Complication of Malignant Catatonia**

*Poster Presenter: Artur Setyan, B.Sc.*

*Co-Author: Vivek Datta*

#### **SUMMARY:**

**Background** Malignant catatonia (MC) is a potentially fatal form of catatonia marked by autonomic instability and can occur in patients with

underlying psychiatric disorder or secondary to another neuromedical illness. A PubMed search yielded 4 case reports of cardiac arrest as a complication of MC (1-4). Here we describe a case of malignant catatonia complicated by ventricular fibrillation arrest. **Case** A 49 year old woman with a history of bipolar disorder and PTSD was transferred to our institution after 3 months of hospitalization for altered mental status. She was noted to be mute, posturing, with significant gegenhalten and rigidity in the upper extremities, requiring nasogastric tube feedings and intravenous fluids due to food refusal and hemodialysis for acute kidney injury. She developed deep vein thrombosis due to immobility. MRI brain was unremarkable, CSF was bland with studies negative for autoimmune encephalopathy, rheumatologic disease, heavy metal toxicity, infection, nutritional abnormalities, inborn errors of metabolism, and malignancy. EEG revealed moderate diffuse slowing but no epileptiform activity. The psychiatric consultant diagnosed catatonia, which did not respond to high dose lorazepam, memantine, amantadine, valproic acid, and a trial of phenobarbital. A court order was obtained for electroconvulsive therapy but prior to the 7<sup>th</sup> treatment she went into ventricular fibrillation with return of spontaneous circulation after 12 minutes of CPR. Cardiac angiogram was unremarkable and no other cause of ventricular arrest was found. She sustained hypoxic-ischemic insult and did not improve with 7 subsequent ECT treatments at which point palliative extubation was pursued and the patient died shortly after. **Discussion** MC is known to be potentially fatal, with cardiac arrest described as a possible complication in the literature. Treatment with ECT is typically effective in up to 89% of patients, with prompt treatment preferred (5). In this case dysautonomia secondary to MC was presumed in the absence of another factor. It is possible that memantine and amantadine may have contributed to QTc prolongation and predisposed her but this was not noted. **Conclusion** MC can lead to death from cardiac arrest from dysautonomia. Prompt identification and treatment of catatonia may have prevented fatality in this case.



**No. 136****Viloxazine as an ADHD Treatment: A Systematic Review of Randomized Controlled Trials**

*Poster Presenter: Raman Marwaha, M.D.*

*Co-Authors: Ishdeep Narang, Gurjinder Singh*

**SUMMARY:**

Attention deficit hyperactivity disorder is a significantly prevalent mental disorder, presenting in children and adolescents. Current treatment relies on the management of symptoms; however, the limited curative nature of these drugs, paired with the risk of drug dependence and their host of adverse effects limits patient compliance. Viloxazine is a novel therapeutic that we hypothesize will significantly reduce ADHD symptoms in patients, specifically those without sedative anticholinergic or adrenergic effects presenting with minimal evidence of drug dependence. The purpose of this systematic review is to investigate this hypothesis through a thorough literature search of randomized controlled trials. A comprehensive search strategy of PubMed, Scopus and Web of Science, was implemented to obtain our scope of literature. These identified randomized controlled trials were then screened for relevance before being subject to data extraction. The studies' sample sizes ranged from 222 to 477, with statistical significance being determined at  $P < 0.05$ . Our findings confirm our hypothesis and corroborates the notion that Viloxazine significantly reduces ADHD symptoms, specifically in children aged six to twelve; however, the limited availability of the current literature warrants further studies into the efficacy of viloxazine in addition to determining an ideal dosage regimen. Moreover, the current literature solely focuses on the use of viloxazine in children; however, ADHD is also present in adults and should be investigated as such.

**No. 137****Weill Cornell Medicine Wellness Qlinic: Expanding LGBTQ+ Mental Health Services Using a Student-Run Clinic Model**

*Poster Presenter: Constance Zhou*

*Co-Authors: Matthew Wickersham, Jessica E.*

*Zonana, M.D., Jessica Spellun, M.D.*

**SUMMARY:**

The Weill Cornell Medicine Wellness Qlinic (Wellness Qlinic) is a student-run free mental health clinic serving the lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community in New York City. Student-run clinics are an established service delivery model to provide primary care to underserved communities experiencing barriers to accessing health care. Psychiatric evaluation and medication management have been implemented in several student-run clinics but providing sustainable psychotherapy services is an identified challenge. In this poster, we present a student-run mental health program incorporating interdisciplinary trainees to offer multiple modalities of short-term psychiatric treatment including individual psychotherapy, medication management, and group therapy. Notably, we found that 43% of our patients identify as transgender or gender non-conforming, 66% of our patients identify as people of color, and 35% of our patients were uninsured. Patients most commonly presented with diagnoses of depressive disorders, anxiety disorders, and post-traumatic stress disorder. Following 12 weeks of treatment, patients showed statistically significant clinical improvement, as measured by percent reduction in PHQ-9 and GAD-7 scores. Patients also demonstrated high engagement, with only 10% of patients lost to follow up. We describe the Wellness Qlinic's service delivery design, including volunteer involvement, and demonstrate using retrospective chart-review data that the clinical care provided to a diverse range of patients in the LGBTQ+ community has led to positive outcomes.