

Saturday May 04

## Revolutionizing Psychiatric Education: AI-Powered Resident-Led Journal Clubs",18"

*Daniel Laor ; Daniel Laor ; Liliya Gershengoren*

**Introduction:** In response to the evolving demands of psychiatric education, we introduced a non-traditional and innovative resident-driven journal club that embraces cutting-edge technology. The purpose of the journal club was to contextualize seminal papers in the field of psychiatry in order to bridge the gap between historical knowledge and current practice.. **Methods:** Employing generative Artificial Intelligence (AI) through the use of ChatGPT, we conducted a pilot study to craft a 45-minute interactive journal club session, inspired by the Cochrane style, centered around a selected paper. **Results:** ChatGPT played a pivotal role in generating case vignettes, identifying pertinent clinical questions, and facilitating adapting a structured framework for the journal club leader for a specific selected paper. ChatGPT was also helpful in finding as well as generating related board-review questions. **Discussion:** While ChatGPT undoubtedly streamlined our journal club, saving time and inspiring presenter creativity, it is operator dependent and requires critical appraisal of the generated content. The poster presentation will describe the potential of this approach to create an enhanced meaningful and efficient learning experiences. Furthermore, the ethical considerations involved in using AI in educational settings and the importance of close evaluation of the AI-generated output will be discussed. Through thoughtful integration of innovative technological modalities, there is remarkable potential to fundamentally transform psychiatric

education by enhancing interactivity, efficiency, and contemporaneous relevance.

Saturday May 04

## Are psychiatry residents effectively screening for firearm safety within a veteran and non-veteran population?

*Kennedy Werner MD; Rachel Pacilio; Alexandra N. Kelter*

**Methods** The goal of this study was to collect information on firearm safety screening from a psychiatry residency program at a large academic institution with Veterans Affairs (VA) health system affiliation in the urban Midwest. An optional anonymous Qualtrics survey was emailed to all psychiatry residents (N=43). Questions pertained to the residents' personal firearm safety screening practices their attitudes about the quality of education received on this topic and their level of confidence in performing screenings. **Results** The survey was completed by 86% of residents in the program (n=37). Of respondents 29.73% were PGY1s 27.03% were PGY2s 18.92% were PGY3s and 24.32% were PGY4s. Overall 88.24% of psychiatry residents ask patients if there is a firearm at home over 50% of the time. The most common patient factors prompting screening include elevated risk of homicide or suicide (19.75%) history of mental illness or behavioral concerns (16.05%) acute stressor(s) (16.05%) victims or perpetrators of violence (14.81%) and veteran status (14.81%). 76.67% of residents feel that their experience at the VA has better prepared them to conduct firearm safety screenings; however 35.71% cite concern about damaging rapport with veteran patients as a barrier to conducting firearm safety screenings. 100% of psychiatry residents sampled believe that firearm safety screening

should be taught in all residency programs. 87.50% of psychiatry residents who have received training about firearm safety screenings did so while on a psychiatry service. 0% of psychiatry residents report conducting firearm safety screenings during internal medicine family medicine pediatrics or neurology rotations. Conclusions Because 45% of veterans own firearms as opposed to 20% of the public there is a distinct need to screen for firearm safety in this population<sup>1</sup>. Most residents identify collapse of rapport as a potential barrier which highlights the need for cultural sensitivity and awareness of the values of veteran communities<sup>2</sup>. There is not a standardized firearm safety curriculum in psychiatry residency nor formal education on this topic directed towards veterans<sup>3</sup>. A tailored approach to teaching firearm safety screening may better prepare resident physicians to address this issue especially when caring for specific populations. While this study includes only one psychiatry residency program it would be worthwhile to explore firearm safety screening curricula across all medical specialties as at-risk patients frequently make contact with the healthcare system outside the context of psychiatric care. Demand for psychiatrists greatly exceeds supply and primary practitioners are necessary to close the mental health care gap and address the firearm safety crisis.<sup>45</sup> We hope to develop educational initiatives regarding firearm safety screening to share with our primary care colleagues in alignment with the collaborative care model.

Saturday May 04

**Assessment of the Short Grit Scale in patients with substance use disorder: Reliability and patient characteristics**

*Margaret Griffin PhD; Roger Weiss M.D.*

Introduction: Recovery from substance use disorder requires sustained effort and perseverance. Grit is a resilience factor that may be important for people in recovery. Little research has been conducted on grit in patients with substance use disorder especially in a large and varied sample. Objective: To examine the Short Grit Scale (Grit-S) in patients with substance use disorder our aims were to analyze its psychometric properties compare scores in our sample to others reported in the literature and use demographic and clinical characteristics to predict variance in Grit-S scores. Methods: In this study of patients in treatment for substance use disorder participants completed the Grit-S and other self-report measures. The psychometric properties of the Grit-S were assessed in outpatients (N=94) scores in our sample were compared to others reported in the literature using one-sample t-tests (N=1238) and a hierarchical regression was used to predict Grit-S variance in inpatients (N=1238). Results: The Grit-S demonstrated good internal consistency ( $\alpha=.75$ ) and strong test-retest reliability (unadjusted  $r=.81$  adjusted  $r=.79$   $p$  values $<.001$ ). The mean Grit-S score was 3.15 which was lower than other clinical samples reported in the literature. Regression modeling indicated a moderate statistically significant association between demographic and clinical characteristics and Grit-S scores ( $R^2=15.5\%$   $p<.001$ ). Conclusion: Of particular interest the positive factor of recovery protection showed the strongest association with grit of all the variables assessed. Hence the positive construct of grit was correlated with other positive constructs as well as with risks. Longitudinal assessment of grit and substance use could measure the stability and clinical significance of grit throughout recovery

Saturday May 04

## **Association of ADHD in pregnant and parenting women receiving treatment for Opioid Use Disorder**

*Karuna Poddar MD MS; Dennis Hand*

**INTRODUCTION:** Adult women with attention deficit/hyperactivity disorder (ADHD) are often missed in the routine diagnostic process and are less likely to receive pharmacological treatment unless their symptom severity is high. ADHD increases the risk of substance use disorders like opioid use disorder (OUD). We hypothesize that treating ADHD among women in OUD treatment could improve attendance to OUD treatment and subsequently improve treatment outcomes. In this study we determine the current prevalence of ADHD among women receiving treatment in our women-specific OUD treatment program and compare OUD treatment attendance before and after beginning ADHD treatment at the program. **OBJECTIVE:** Determine the prevalence of ADHD in a women-only OUD treatment program and if treatment with medications for ADHD is associated with increased attendance. **METHOD:** We retrospectively reviewed the charts of women who received outpatient OUD treatment at our program from October 2021 to May 2023. We extracted current ADHD diagnoses date of first prescription for ADHD consistency of prescription clinic attendance including medication management and counseling. We compared all attendance for medication management and counseling before and after their first prescriptions. **RESULTS:** Of 170 women receiving OUD treatment 30 had an ADHD diagnosis. Of those 30 women 20 consistently received ADHD medications 17 were prescribed only stimulants or

combination of stimulants and non-stimulants and 3 were prescribed only non-stimulants. Five women did not consistently receive ADHD medication and 5 had incomplete records and were excluded from analyses. Among those consistently receiving ADHD medication attendance was unchanged before and after starting medication (69% vs. 68%). Among the 5 women with inconsistent medication attendance declined after prescription from 56% to 42%. **DISCUSSION:** We found that OUD treatment attendance was sustained among women who consistently received ADHD medications and declined among with inconsistent medication. There are many reasons for this difference that warrant further research. The ADHD medications prescribed may have been ineffective for those who had inconsistent medication use or they may have been differentially impacted by ADHD medication shortages. These women may have also had more severe behavioral disruption or other barriers that interfered with both consistently receiving medication and attending OUD treatment services. There are concerns about “over-management” being detrimental for patients in opioid treatment. However our analysis suggests including ADHD management in OUD treatment whether with stimulants only or combination of stimulants and non-stimulants may be beneficial for supporting OUD treatment. These potential benefits must be studied further especially in the context of rises in unauthorized amphetamine/methamphetamine use among people with OUD.

Saturday May 04

## **Characteristics and Outcomes of Hospitalized Psychiatric Inpatients Treated**

## **with Buprenorphine for Co-Occurring Opioid Use Disorder (OUD)**

*Ashley Sacks; Victor Gordillo; Lidia Klepacz*

Background: Despite being the gold standard for long term treatment and mortality reduction medications for opioid use disorder (mOUD) are underutilized despite ongoing efforts to reduce barriers to access with only 18% of qualifying patients undergoing treatment. Approximately 38% of patients nationally with an opioid use disorder (OUD) have a co-occurring psychiatric diagnosis; however treatment for these co-occurring illnesses frequently do not occur simultaneously especially among acutely psychiatrically ill patients. Inpatient psychiatric units often do not initiate patients on mOUD such as buprenorphine possibly due to a lack of national policy encouraging expanded access. Methods: This IRB-approved retrospective single-site (level 1 trauma in academic hospital just outside of New York City) study examined the medical records of patients who received inpatient consultations from our mOUD consultation service between January 1st 2018 and August 15th 2020. Demographic and clinical information was collected and analyzed for descriptive statistics. The primary outcome gathered was average length of stay for patients consulted. Results: 123 patients received inpatient consultations; 114 of these patients began mOUD. Patients had an average age of 37 years identified predominantly as male and were mostly White. About one third of patients were undomiciled almost three quarters were unemployed and over half had prior buprenorphine treatment. The most common primary psychiatric diagnosis was depression (>50%) followed by bipolar disorders and schizophrenia spectrum illness. Patients had co-occurring substance use with stimulants

(40%) marijuana (30%) and benzodiazepines (16%). The average LOS among patients initiated on mOUD (11.27 days) did not significantly differ from patients who received consultations without initiating mOUD (8.11 days  $p=0.29$ ). Both values fell within the expected LOS (7-14 days) for inpatient hospitalizations at our hospital. Over half of patients were established with outpatient or inpatient treatment programs following their discharge. Conclusions: Our data supports initiating patients with co-occurring OUD and psychiatric illness on mOUD during their initial inpatient hospitalization regardless of severity of acute psychiatric symptoms. Our study did not find that initiating substance use treatment prolonged LOS. Initiating treatment on the psychiatric unit may have increased engagement in outpatient addiction services. Further studies are required to characterize potential benefits.

**Saturday May 04**

## **Creating a longitudinal sports psychiatry elective rotation for senior psychiatry residents and fellows**

*Raphaela Fontana D.O.; Bailey Nevels PhD; Claudia Reardon M.D.*

Sports psychiatry is a rapidly growing subspecialty in the field of psychiatry. In recent years more high-profile athletes have been outspoken about their mental health struggles challenging the status quo. In effect more psychiatric residents and fellows have expressed an interest in treating this patient population yet very few institutions currently provide this educational experience. In having a sports psychiatry elective training programs will be able to meet the demands of their community while simultaneously satisfying the interest and educational necessities for the resident and/or fellow. This sports

psychiatry sample elective curriculum is intended to be used for psychiatric residents in their fourth year of training or fellows in the outpatient setting. The only requirement for this rotation is for there to be a dedicated space (offsite or onsite) with at least one supervisor who can provide direct or indirect supervision and has either received additional training in sports psychiatry or has an interest in this subspecialty. The rotational curriculum has been outlined in this sample curriculum and includes goals and objectives for the clinical experience in addition to two pathways for the didactic or educational experience. Trainees are given the opportunity to participate in the International Society for Sports Psychiatry (ISSP) Curriculum which is an AADPRT model curriculum and can apply for the ISSP Certificate of Additional Training in Sports Psychiatry upon completion. The goals and objectives for this elective rotation includes milestones from the ACGME Milestones 2.0 in addition to some proposed sports psychiatry specific milestones. These milestones can then be reflected on evaluation forms as these are some of the primary measures used to determine successful completion of rotations in training along with supervisor feedback. The addition of a sports psychiatry elective rotation in psychiatry residency or fellowship training programs nationwide will enhance the mental health treatment athletes receive by improving the awareness medical knowledge and collaboration amongst trainees in other disciplines of medicine.

Saturday May 04

### **Developing a new workflow in a multidisciplinary psychiatry unit for rapid cross titration from methadone to**

### **buprenorphine/naloxone: a two-case report**

*Shiyu Chen M.D.; Alexandra Pinkerson MD; Bo Kim PhD*

Background: The traditional approach for buprenorphine induction for opioid use disorder (OUD) is to wait until a patient is in a moderate opioid withdrawal state to prevent precipitated withdrawal which can be uncomfortable for patients and challenging for staff. Rapid cross titrations have been documented in previous case studies. However introducing such a workflow in an inpatient environment must account for unique concerns and multidisciplinary considerations. A new workflow for methadone to buprenorphine/naloxone rapid cross titration via buprenorphine transdermal patch was created and implemented through two cases in a multidisciplinary Department of Veterans Affairs (VA) inpatient psychiatry unit. Case Descriptions: Case 1: A veteran in his 40s with a past psychiatric history significant for OUD currently on methadone was admitted to inpatient psychiatry service after relapsing on fentanyl. After initial medical and psychiatric stabilization he was back on his previous dose of methadone. Patient wanted to switch from methadone to buprenorphine/naloxone before a set discharge date which required a cross titration in a short time frame. Various methods for rapid induction of buprenorphine treatment with overlapping full opioid agonist use were discussed with an interdisciplinary inpatient team. The psychiatry team decided to use the transdermal buprenorphine patch method because of the limitations and concerns of the inpatient unit. Pharmacy further evaluated and approved the use of buprenorphine patch for OUD nursing provided input on medication administration schedule and observation status and



psychiatry developed and implemented a new workflow with the supports of these disciplines. Case 2: A veteran in his 60s with a past psychiatric history significant for OUD on methadone maintenance and alcohol use disorder was admitted to the inpatient psychiatry service for medically monitored alcohol detoxification and for transition from methadone to buprenorphine/naloxone. He had recently started a taper of methadone. Similarly transdermal buprenorphine patch was used for rapid cross titration. Based on the experience from Case 1 modifications to improve patient comfort were made in Case 2. Results: Utilizing the input and experience of a multidisciplinary team a rapid cross titration workflow from methadone to buprenorphine-naloxone via buprenorphine transdermal patch was successfully created implemented and modified in a VA inpatient psychiatry unit with positive patient experience. This workflow will be further refined with multidisciplinary input for future applications. Conclusion: This case report demonstrates an example of devising and adapting new approaches to challenging addiction treatment with interdisciplinary collaboration to improve patient outcome.

Saturday May 04

### **Effect of Transcranial Direct Current Stimulation on Functional Neural Networks in Internet Gaming Disorder: A Resting-state EEG Source Study**

*Jeong Woo Chang*

Background: Transcranial direct current stimulation (tDCS) is widely being investigated in addictive disorders as the core pathophysiology of addiction dysfunctional cognitive and reward processing in neural networks may respond to neuromodulation. Resting state electroencephalography (EEG)

studies suggest that tDCS may stabilize intrahemispheric neural connectivity in IGD patients. EEG source studies suggest that hyper-connectivity within the default mode network (DMN) and reward/salience network (RSN) may be potential state markers of IGD. The aim of this study is to examine the neuromodulating effect of tDCS on dysfunctional neural networks characteristic of addiction (DMN and RSN) thus investigating the efficacy of tDCS for IGD patients. Methods: A total of 26 IGD patients were randomized into two double-blind groups (tDCS group  $n = 14$ ; sham group  $n = 12$ ) Each group received 10 sessions (2 sessions per day for 5 consecutive days) of either tDCS (2 mA for 20 min per session anode/cathode electrodes placed over left/right dorsolateral prefrontal cortex) or sham stimulation. Resting-state EEG severity of IGD (Young's Internet Addiction Test Y-IAT) and craving for gaming (Visual Analogue Scale VAS) was measured before and 1 month after intervention. Change of source functional connectivity in DMN and RSN were assessed in delta theta alpha beta and gamma bands respectively. Post-hoc analysis was performed to analyze correlation between improvement of clinical symptoms and tDCS-induced connectivity changes in neural networks. Results: In DMN tDCS had a significant modulating effect on resting-state theta wave connectivity between left prefrontal cortex and left post central gyrus ( $p < 0.05$ ) left prefrontal cortex and left posterior cingulate gyrus ( $p < 0.05$ ) left prefrontal cortex and left inferior parietal lobe ( $p < 0.05$ ). tDCS suppressed the increase of resting-state theta connectivity in all three neural connections compared to sham group. No significant correlation was observed between change in DMN connectivity and improvement of clinical symptoms 1 month after tDCS. Conclusion: tDCS suppresses

resting-state theta hyper-connectivity between left prefrontal and left parietal cortex in DMN. The result is backed up by previous studies that suggest intra-hemispheric hyper-connectivity between fronto-parietal fronto-temporal lobe as neurophysiological marker of IGD. Aberrant resting functional connectivity of DMN is associated with impaired self-awareness dysfunctional emotion control and ruminations in addiction. Therefore neuromodulation through tDCS may alleviate symptoms of IGD by stabilizing functional connectivity of neural networks. This research was supported by Korea Mental Health R&D Project funded by the Ministry of Health & Welfare Republic of Korea (HI22C0404) and a grant from the National Research Foundation of Korea (2021R1F1A1046081). This work was also supported from the Korea Brain Research Institute (23-BR-03-03)

Saturday May 04

### **Engagement in Community-Based Mental Health Care After a Mental Health Hospitalization Among Those with Co-occurring Substance Abuse Disorders**

*Wenjun Shao; Emily Leckman-Westin*

Background: National quality measures of outpatient psychiatric care following an emergency room or inpatient service historically have focused on time to receive a first outpatient mental health visit. Attending at least one follow-up visit after discharge has been associated with lower readmission rates and better medication adherence (1-4). A single visit is important but is not adequate care following a hospitalization particularly in the high-risk period after discharge. The NYS Office of Mental Health has developed a new measure of aftercare of five or more outpatient mental health services in the first

90 days after discharge. This retrospective study evaluated the factors associated with engagement in care after mental health discharge among those who had co-occurring substance use disorders. Methods: Psychiatric inpatient discharges from calendar year 2021 (n=46898) were extracted from NYS Medicaid claims/encounter data. Patient characteristics (age gender race ethnicity length of inpatient stay housing/economic problems at admission primary diagnosis) were extracted. Chi-square test and logistic regression analysis were conducted to identify factors associated with receipt of five or more outpatient mental health visits within 90 days post-discharge among those who had co-occurring substance use disorders. Results: Overall almost half (49%) of psychiatric inpatient discharges had at least one substance use disorder diagnosis at discharge. The most common primary psychiatric diagnosis was schizophrenia and 56% of the discharges with a primary schizophrenia diagnosis also had a co-occurring SUD (11007/19612). Discharges with a substance use disorder diagnosis were significantly less likely to have five or more community-based mental health visits within the 90 days post-discharge (40%) compared to a 53% follow-up rate for those who didn't have SUD diagnoses (p<0.05). Among those discharges with a primary schizophrenia diagnosis and a substance use disorder follow up rates were even lower with 36% of discharges having five or more community visits within 90 days post discharge. The lowest rates of engagement post discharge were observed for those discharges with substance use disorders and no engagement with services prior to admission (27%) and for those discharges with both SUD and housing/economic problems at admission (26%). Conclusions: The findings demonstrate even among psychiatric

discharges with a co-occurring substance use diagnosis understanding engagement prior to admission diagnostic and economic circumstance may highlight additional concerns for adequate community engagement post discharge. Strategies to enhance discharge planning to improve access to outpatient services and to facilitate a patient's transition to outpatient providers are important to address disparities.

Saturday May 04

### **Exploring the Role of Podcasts in Teaching Academic Psychiatry**

*Sena Gok Medical Doctor; David Gratzter M.D.; Nikhita Singhal M.D.; An Yi Yu M.D.*

**Background/Aim:** Podcasts are increasingly utilized in medical education for their accessibility and convenience. Despite their popularity in various fields their role in teaching academic psychiatry remains underexplored. Our study examines the availability and effectiveness of academic psychiatry podcasts focusing on their role in medical education and fill the gap in educational resources by comprehensively reviewing active psychiatry podcasts.

**Methods:** We conducted a comprehensive search on Google Spotify and Apple Podcasts to identify podcasts relevant to academic psychiatry. Inclusion criteria were active podcasts within the last six months covering academic psychiatry topics. Data on episode count podcast name release schedule and institutional affiliations were collected.

**Results:** Our research identified a total of fourteen active academic psychiatry podcasts some affiliated with reputable academic institutions and psychiatry journals. The study provides detailed insights into the most active podcasts their focus areas and affiliations. **Discussion:** The

study's identification of a limited number of academic psychiatry podcasts highlights a significant educational gap. This gap suggests an underutilization of a potentially valuable resource in psychiatric education. The implications for academic psychiatry are profound as podcasts offer a unique flexible learning platform that aligns well with the dynamic needs of psychiatric education. Their informal yet informative nature can enhance traditional learning methods providing accessible up-to-date content that can be integrated into curricula. Given the positive reception of podcasts in other medical fields their incorporation into academic psychiatry could revolutionize how concepts and new research are disseminated among professionals and students alike. This study indicates a promising opportunity for the development of specialized content that caters specifically to the intricacies of psychiatric education. **Conclusion:** The current underrepresentation of academic psychiatry in the podcasting realm as evidenced by our study signals a missed educational opportunity. While the increasing use of podcasts in medical education is encouraging the specific needs of academic psychiatry are not yet fully met. Our study underscores the potential of podcasts as a valuable educational tool in psychiatry suggesting a pressing need for the development of more targeted podcast content. Such advancements could significantly contribute to the ongoing education and professional development of psychiatrists and psychiatric educators offering a novel engaging way to stay informed about the latest developments in the field.

Saturday May 04



## **Factors Affecting Patients' Arrival to their First Outpatient Follow-Up Visit at an Addiction Clinic**

*Manuel Pereira Herrera MD; Marina Polskaya MD; Hussain Abdullah*

Background: Missed appointments significantly affect addiction patient outcomes in multiple ways such as increased all-cause mortality within 2 years increased odds of further detoxification increased relapse rates and worsening psychological functioning. This retrospective descriptive cohort study investigated the association between demographic clinical and substance use pattern variables and the compliance with an initial outpatient addiction follow-up visit after a hospitalization or emergency department (ED) stay in which a substance use disorder was identified. Methods: Demographic and clinical variables were extracted from patients aged  $\geq 18$  years evaluated by the addiction psychiatry service between 7/1/2022 -11/4/2022 that had been enrolled in the ICARE grant with at least one substance use disorder. No shows visit compliant and patients who opted not to schedule a visit were cross-tabulated by patient demographic psychiatric and medical factors using Fisher's exact Wilcoxon or Kruskal tests. Sequential logistic regression analyses were performed for variables where  $P < 0.1$  to compare the probability that a patient would schedule the visit (Analysis I) and then if they would keep the appointment (Analysis II). Results: The study included 79 patients (mean age 46.5 64% male) of which 65.8% had scheduled a visit during the hospital stay. Of the 52 patients that scheduled a visit 63.5% were no shows and 36.5% kept the appointment. Having had any prior ED visits or hospitalizations decreased the likelihood of an appointment being scheduled (OR 0.17 and 0.22 respectively

both  $P \leq 0.05$ ). Being domiciled increased the likelihood of keeping the visit (OR 10.81  $P \leq 0.05$ ) but higher numbers of hospitalizations and ED visits decreased the odds of the visit being kept (OR 0.86 0.75 respectively all  $P < 0.05$ ). Each hospitalization or ED visit in the prior year lowered the odds of keeping the appointment by 25 and 14% respectively. The presence of any co-occurring psychiatric diagnosis lowered the odds of keeping the visit (OR 0.16  $P < 0.05$ ). No shows tended to have higher rates of hypertension seizure disorders heart failure and chronic kidney disease although this did not achieve significance. A majority of patients that kept the visit had more experience with addiction treatments and had no past or present legal issues and most no shows had been started on medication treatment for their substance use disorder at the hospital but these results were not significant either. Conclusions: factors such as homelessness co-occurring psychiatric conditions and increased number of ED visits and hospitalizations may decrease the likelihood of compliance with a first outpatient addiction appointment following a hospital or ED stay.

**Saturday May 04**

## **Harm Prevention: An Act of Compassion**

*Amber Edinoff M.D.; Sarah Kaufman M.D.; Rachel Voss M.D.*

Over the years multiple different models encompassing addiction have been introduced including ones for medical moral psychodynamic social learning socio-cultural and public health. The medical model has been prominent in medicine and views addiction as a disease and total abstinence as the goal of treatment. The moral model has predominated in public policies as seen

in punitive repercussions for drug use such as prison sentences. These models have either missed large swaths of the public due to rigid requirements for treatment or by punishing people suffering from addiction rather than treating the problem at hand. Harm reduction refers to policies programs and practices that aim to minimize negative health social and legal impacts associated with drug use drug policies and drug laws. Harm reduction as an approach stands in opposition to the traditional medical model of addiction which labels any illicit substance use as abuse as well as to the moral model which labels drug use as wrong and therefore illegal. Resistance to harm reduction possibly stems from a culture that values abstinence and because harm reduction is seen as being “value-neutral.” However we argue that harm reduction is fundamentally value-rich and is guided by clinical ethics focusing on the care of individual patients and their interactions with society as a whole. The values provided to patients through harm-reduction strategies are autonomy nonmaleficence beneficence and justice. Autonomy is respecting the individual’s right to make decisions for themselves while nonmaleficence is the obligation to avoid inflicting harm. Both of these values can be seen in needle exchange programs which a recent study showed can be effective platforms to motivate participants to enroll in treatment programs. Beneficence is the promotion of the well-being of others which can be seen in opioid overdose education programs and naloxone distribution. A study that looked at overdose rates in the state of Massachusetts found that overdose rates dropped between 24-46% in communities that implemented overdose education and distributed naloxone. Justice promotes equality in healthcare and can be seen in opioid replacement therapy which gives people the opportunity to have a life free

of illicit drug use for those who are unwilling or unable to stop using opioids at the present time. In this poster we will discuss the compassion and value-rich nature of harm reduction strategies in the face of current addiction treatment modalities.

**Saturday May 04**

### **Insurance Denial Appeals for Substance Use Disorders in New York State**

*Ping Ping Zeng; Arvin Azam; Lulu Wei; Cathryn Galanter M.D.*

Background: In the past decade general medical care utilization increased among adults with substance use disorders (SUDs) in the United States due to insurance expansions but SUD treatment utilization has remained consistently low at about 10%. Various barriers to SUD treatment exist including stigma lack of readiness financial barriers and denial of coverage by health insurance plans. Patients have the right to appeal insurance denials which can be overturned. Most healthcare plans have an internal appeal process which can be escalated to external appeal performed by an independent party. Appealing denials can result in delays in healthcare and can negatively impact patient health outcomes. The aim of this study is to characterize the demographics of SUD external appeals in New York State (NYS) and identify factors associated with successful appeals. Methods: The NYS External Appeals database was queried for 2019-2022 SUD cases (N=1060). We collected patient age gender decision year denial reason diagnosis treatment and reviewer references. Annual appeal volume was calculated and analyzed by linear regression. The association between decisions and characteristics was analyzed by  $\chi^2$  tests and factors related to overturns

were analyzed through multivariate logistic regression. Results: 60.2% of SUD appeals were successfully overturned compared to the 32.3% overturn rate in appeals of all conditions. The rate of successful appeals per year has not changed significantly. Those who appealed were more likely to be male (81.1%) treated inpatient (91.6%) suffering from more than 1 substance (58.4%) insured through Medicaid (58.9%) and initially denied due to lack of medical necessity (99.3%). The factors that were significantly associated with successful appeals were inpatient treatment and SUD with more than 1 substance. 60.5% of reviewers referenced Level of Care for Alcohol and Drug Treatment Referral (LOCADTR) guidelines and 16.6% referenced American Psychiatric Association (APA) guidelines. Appeals that referenced APA guidelines (OR: 8.43 95% CI: 4.89-14.6  $p < 0.0001$ ) or LOCADTR guidelines (OR: 3.07 95% CI 2.34-4.01  $p < 0.0001$ ) had increased odds of being successfully overturned. Conclusions: Appeals for denied SUD claims had almost double the rate of successful overturns compared to appeals for all conditions. These findings suggest that health insurance plans may inappropriately deny coverage for necessary treatment and services which delays care. The relatively high rate of successful appeals warrants further research in insurance claim denials and appeals in substance use-related conditions so that we can minimize unnecessary delays and barriers in healthcare for SUDs.

Saturday May 04

### **Medical Student Utilization of Mental Health Services: Mixed Method Analysis of Factors That Impact Where Students Seek Treatment**

*Kyle Webster Ph.D.;D.O.; Alyssa Smith M.D.; Sarah Kong D.O.; Alla Sikorskii*

**Objective.** Medical students are disproportionately affected by mental health conditions including depression anxiety and suicidal ideation [1-3]. As such it is crucial to improve access to care for this population. Understanding why students seek mental health services at their institution or external to their medical schools could further provide insight to improve student engagement with services. The authors aimed to elucidate these factors by surveying medical students at Michigan State University College of Osteopathic Medicine (MSUCOM). **Methods.** This study was approved by the institution's IRB under exempt status. In fall 2019 all medical students at MSUCOM were offered a voluntary anonymous survey which inquired about demographics (age gender sexual orientation race year in medical school); if they had sought mental health treatment; where they sought treatment (internal vs external to the institution); if they had not sought treatment where they would prefer to seek treatment; what factors influenced this decision; and what symptoms were present. Differences in proportions of reasons for seeking internally vs externally were compared using a chi-square test. A multinomial logistic regression model was used to estimate the 95% odds ratio for preference of seeking services internally vs externally. The model was adjusted for demographic factors including age sex and year in training. **Results.** Three hundred fifty-four students completed the survey. Of these 167 (47%) sought mental health care during medical school including 108 who sought care internally and 59 externally. Top factors cited as influencing this decision included convenience what symptoms were present and trust/comfort with provider. Additionally students further in medical school training

were more likely to seek care externally ( $p=0.001$ ). There was not a statistically significant difference in where individuals utilized services for race/ethnicity sexual orientation or gender. Additionally of the 354 respondents 109 participants (30.8%) reported utilizing mental health services prior to medical school; of these 78 (71.6%) reported utilizing mental health services during medical school. Conclusions. Forty-seven percent of medical students had received mental health treatment in medical school of which 35% sought mental health care externally. Factors determining where medical students sought treatment included convenience confidentiality concerns and year in medical school. As medical schools increase internal availability of mental health services to their students it is important to consider these factors in designing resources. As over a third preferred external resources it is important for medical schools to provide information of available resources.

Saturday May 04

### **Modeling fetal cannabinoid syndrome: Effects of dronabinol given during gestation and lactation on behavioral and brain alterations of the offspring**

*Jorge Manzanares; Daniela Navarro; Ani Gasparyan; Francisco Navarrete Rueda*

Background: There is a worrying increase in cannabis use during pregnancy and lactation. This study aimed to establish a novel animal model for perinatal exposure to dronabinol and assess the resultant behavioral and neurological modifications in the offspring. Methods: Five days after the beginning of pregnancy in female C57BL/6J dronabinol (10 mg/kg/12 h p.o.) was given to mothers to postnatal day 21. Behavioral studies (anxiety depression and cognition) were assessed in

the offspring (male and female). Relative gene expression of key components in the stress axis (corticotropin-releasing factor (CRF) and glucocorticoid receptor (GCR)) and reward system (tyrosine hydroxylase (Th) and mu-opioid receptor 1 (Opmr1) cannabinoid receptor 1 (Cnr1) and cannabinoid receptor 2 (Cnr2)) were analyzed by Rt-PCR. Protein expression of brain-derived neurotrophic factor (BDNF) Neurofilament 200 (NF200) and neuronal nuclear protein (NeuN) in the hippocampus (Hipp) and cerebral cortex (CCx) was examined by immunohistochemistry. The excitatory/inhibitory balance in the Hipp and CCx was also evaluated by immunohistochemistry. Cnr1 and Opmr1 gene expressions were measured in brain regions of mice submitted to studies of alcohol consumption and motivation. Results: Offspring exposed to THC displayed elevated levels of anxiety depression and cognitive impairment and increased susceptibility to alcohol consumption and motivation in males and females. Notably these behavioral changes were accompanied by significant reductions in Crf gene expression in the paraventricular nucleus (PVN) in males and females and a decrease in TH expression in males in the ventral tegmental area (VTA). GCr expression in the Hipp was significantly increased in males and TH expression in the VTA of females. The Cnr1 gene expression decreased in the Hipp of males and increased in females. The Cnr2 gene increased in Hipp of males and females. Cortical lamination in the cerebral CCx and Hipp of males and females was disrupted suggesting abnormal brain maturation. BDNF and NF200 protein expressions were reduced in the Hipp of males and females. VGluT1/VGAT protein expression was altered in the excitatory and inhibitory loop. In mice subjected to ethanol-self-administration we

found increased Cnr1 gene expression in males and Oprm1 females and decreased Cnr1 expression in females and Oprm1 males. Conclusions: These results reveal the severe consequences of perinatal dronabinol exposure on various behavioral and neurochemical aspects. These may result from alterations observed in cortical development mechanisms stress axis regulation and reward circuits. A decrease in neuronal plasticity accompanied the findings. Further studies are required to complete the characteristics of a “fetal cannabinoid syndrome” with a relevant impact on our society.

Saturday May 04

### **Nicotine Pouches – „Oral nicotine pouches – results of a study on nicotine kinetics“**

*Andrea Rabenstein; Benedikt Rieder; Nadja Mallock-Ohnesorg*

Background: Nicotine pouches or pouches are nicotine-containing products that are free of tobacco. Nicotine pouches are essentially made of plant fiber components to which nicotine has been applied. They are placed under the upper lip and deliver nicotine that is absorbed through the oral mucosa. Pouches are available with varying nicotine content ranging from 1 to 50 mg of nicotine per pouch. The nicotine delivery and acute effects of these products have been poorly studied. In particular the rate of nicotine onset in the first 5 min of use has been associated with a high potential for addiction. Pouches have been classified as food in several court rulings and food must be free of nicotine which is why trade in Germany has been banned. Nevertheless they can be obtained via online trade from abroad which is why it is necessary to be able to assess the product in terms of its effect. Aim und

methods: We examined nicotine delivery craving reduction and side effects associated with the use of high-dose nicotine pouches compared with low-dose pouches and pouches without nicotine and compared with tobacco cigarettes. A five-arm crossover study of 15 smokers examined the use of pouches containing 0 mg 6 mg 20 mg or 30 mg of nicotine and a tobacco cigarette. Venous blood samples were collected at defined time points during the 240-minute study period and analyzed for nicotine concentration. Effects on smoking craving and side effects were assessed using questionnaires. Cardiovascular effects and influences on arterial stiffness were determined using an appropriate device (Mobil-O-Graph). Results: The nicotine delivery of the 30 mg nicotine pouch exceeded the nicotine delivery of cigarettes. In the acute phase the increase in plasma nicotine levels was comparable when consuming the cigarette and the 30 mg pouch. The desire to smoke and the acute craving for a cigarette were reduced by all products including the nicotine-free pouch. Using the cigarette and the high concentration nicotine pouch (20 mg and 30 mg nicotine) showed a significant increase in heart rate. Irritation of the oral mucosa in the first minutes after consumption was found to be higher with all pouches regardless of their nicotine content than with the tobacco cigarette. Conclusions Nicotine pouches with high doses (30 mg) can lead to higher plasma nicotine levels than cigarettes. The steep increase of plasma nicotine in the acute phase indicates a possibly high addictive potential of these products. In addition the higher nicotine delivery has been associated with more severe side effects. Such high doses of nicotine do not seem to be necessary to satisfy cravings as pouches



with lower doses or even without nicotine also reduced the craving to smoke.

Saturday May 04

### **Pre-Clinical Medical Student Bias Against Mental Health and Psychiatry: Factors Affecting Improvement**

*Alyssa Smith M.D.; Joseph McCann M.D.; Laura Quast M.D.; Lauren Bryant M.D.; Martin Plawecki M.D.; Ph.D.*

Background: Patient outcomes are worsened by provider bias against mental health. Thus examining and reducing such bias is important[1-4]. Prior work showed that pre-clinical psychiatry education reduces bias in first-year medical students[5]. In our prior study we asked what would change perceptions of psychiatry; over half of respondents answered increased patient exposure[5]. In this study we examined how post-graduate medical education specialty of interest and the addition of structured patient exposure mediated change in bias. Scores from 2022 to 2023 were compared to examine perception changes associated with patient exposure. 2023 scores were examined to determine how specialty of interest affected bias. Methods: At Indiana University School of Medicine first-year medical students receive education in psychiatry and neurology through a course entitled "Neuroscience and Behavior." In 2023 the course included two patient "townhalls" each consisting of a patient with a psychiatric condition speaking about their conditions and answering pre-submitted and live student questions. Each townhall was moderated by a psychiatry resident with faculty supervision. All 365 first-year students were offered our IRB-approved survey which included the Mental Illness: Clinician's Attitudes version 2 (MICA-2; 16 Likert-scale

questions; lower scores indicate less bias)[6] and supplemental questions including current specialty of interest. A small gift card was offered to completers of both surveys. 2023 MICA-2 results were analyzed using paired t-tests and compared to 2022 results using a paired t-test. Specialty of interest's effect was analyzed using ANOVA. Results: In 2023 82 students completed both pre and post surveys with mean scores of 35.80 (SE=0.82) and 34.48 (SE=0.82) a change of -1.32 (p=0.04). 26 students completed only the pre survey and were excluded from analyses. Students interested in psychiatry (N=8; mean change -2.88) and those interested in medical specialties (N=50; mean change -1.70) showed a greater decrease than those interested in surgical specialties (N=24; mean change -0.04; p=0.01). In 2022 117 students completed both surveys with mean pre and post scores of 36.56 (SE=0.74) and 33.64 (SE=0.75) a change of -2.92. The difference between pre and post score change in 2022 and 2023 was statistically significant (p=0.03) with the change being less in 2023. Conclusions: In both years bias towards mental health decreased following the pre-clinical psychiatry and neurology course. Improvement was less in 2023 than 2022 perhaps from addition of the patient exposures indicating early exposure may worsen bias. Specialty of interest was also significantly associated with change; those interested in medical specialties and psychiatry had a greater reduction than those interested in surgical specialties. Future work will aim to refine discipline specific challenges and the impact of patient exposure timing within medical education.

Saturday May 04

## **Psychopharmacology for Primary Care: Addressing Provider Student and Patient Comfort in Psychiatric Care**

*Isreal Munoz; Vivian Lee; Shilpa Rajagopal; Emma Rowlinson; Navin Oorjitham M.D.*

**Background** While shortages of psychiatrists have led more primary care providers (PCPs) to address initial mental health concerns data suggests that many PCPs may not feel comfortable in initiating pharmacological-based psychiatric treatment for patients. To address provider and student comfort with psychopharmacology our team created workshops using the Waco Guide an evidence-based clinical decision support tool (CDST). Additionally our team aimed to investigate the impact of the clinic environment on patients' clinical experience at St. Vincent's Clinic (STV) a student-run free clinic in Galveston Texas. **Methods** 9 workshops were hosted for STV students and residents in family medicine internal medicine and OBGYN reaching nearly 150 trainees. During workshops participants were educated on how to use the Waco Guide and implement it in their own practice. Surveys at workshops included various questions on participant confidence in treating psychiatric disorders on a scale of 1 (low) to 5 (high). For the second portion of the project patients were given surveys before and after their appointment to gauge patient comfort and perception of clinical environment. Additionally volunteers themselves completed surveys sharing their perceptions of the waiting room and patient rooms (on a Likert scale 1-5 with 1 being least relaxing and 5 being most relaxing). **Results** OBGYN residents showed significant improvement in having more confidence with psychiatric treatment plans (paired difference mean (PDM) = +1.45) and having more psychiatric

tools (PDM = +1.58). Medical students showed significant improvements in confidence with treatment plans (PDM = +1.06) and confidence in having having more psychiatric tools (PDM = +1.44). For patient environment surveys were gathered from 21 patients and 30 volunteers. Appointment duration was negatively correlated with changes in perception of the patient rooms ( $r_s = -0.422$   $p = 0.064$ ) but not the waiting rooms (NS  $p > 0.1$ ). This decrease in patient room perception was subsequently significantly correlated ( $\chi^2(120) = 5.321$   $p = 0.0211$ ) with increases in patient anxiety (OR = 0.257 95%CI[0.0581.139]). A thematic analysis showed negative impacts of the environment on patient comfort ("less cared for" "agitated" "anxious") and concerns regarding long wait times. Suggestions for items to improve the environment included lamps books magazines sound machines with relaxing sounds stress balls and coloring books. **Conclusion** Workshops have received a positive response from STV residents and students increasing their overall comfort with managing psychiatric care. Patient environment results indicate that student volunteers and patients showed that there is a clear desire for aesthetic comfort and functional enhancements to improve patient satisfaction. Future directions include adding the suggested items to the environment and evaluating their impact on patient and volunteer experience and satisfaction.

**Saturday May 04**

## **Representation in Psychiatry Leadership: A Parity Analysis of Gender and Racial/Ethnic Diversity of Department Chairs in Academic Psychiatry**

*King Fok MSc; Nhi-Ha Trinh MD MPH*

Background. Health equity seeks to improve care access and treatment for historically and intentionally excluded groups. Diversity equity and inclusion (DEI) initiatives have centered on ensuring racial/ethnic diversity and representation of mental health providers. While DEI efforts have led to an increase in the aggregate number of self-identified female and ethnic/racial minoritized faculty in academic psychiatry little investigation has been made to identify whether efforts have translated to a concomitant increase in representation in psychiatry leadership. Methods. The purpose of this study is to assess parity in leadership within academic psychiatry departments across the United States. A cross-sectional analysis of self-identified race/ethnicity and gender in academic psychiatry departments from 2012 to 2022 was conducted using data from the American Association of Medical College's Faculty Roster. The number of psychiatry department chairs to psychiatry faculty stratified by race/ethnicity (American Indian or Alaska Native Asian Black or African American Hispanic/Latino/Spanish Origin Native Hawaiian or Other Pacific Islander White) and gender (female or male) were used to calculate the Leadership Parity Index (LPI) for each year of analysis. LPI is defined by the representation of a specific group as leaders relative to the workforce adapted from the Executive Parity Index a measure utilized in the business sector to examine data on gender and racial/ethnic equity in executive and professional levels. In this study LPI was calculated as the proportion of a group's percentage representation as psychiatry department chairs relative to the group's percentage representation as academic psychiatry faculty. An LPI of 1 represents parity in representation; an LPI > 1 indicates overrepresentation in chair positions as

compared to faculty representation; an LPI < 1 indicates underrepresentation in chair positions as compared to faculty representation. Results. The absolute number of faculty across all racial/ethnic and gender groups have increased except for Native Hawaiian and Pacific Islander males. LPI calculations found that faculty who identified as male were consistently overrepresented (average LPI = 1.65) as department chairs in every racial/ethnic group except for Asian males. Female faculty across all races/ethnicities were consistently underrepresented (average LPI = 0.39). Asian males and females ranked the lowest in leadership parity among the racial/ethnic groups studied (average LPI = 0.70 and 0.24 respectively). Conclusion. Although faculty representation has become increasingly diverse there continues to be underrepresentation of females and racial/ethnic minoritized groups in academic psychiatry leadership. The findings of this study suggest that further efforts must be made to promote females and racial/ethnic minoritized groups at every level of leadership in psychiatry.

Saturday May 04

## **STUDY OF PSYCHIATRIC CO-MORBIDITY AND QUALITY OF LIFE AMONG OPIOID DEPENDANT PATIENTS**

*Manmeet Singh M.D.*

Abstract Background: Opioids usage is second among the illicit substance used after cannabis. The prevalence of opioid use in India is three times the global average. Psychiatric disorders coexist with opioid abuse and also impacts quality of life (QOL). Methods: The study was conducted among 114 opioid dependent patients in accordance with ICD-10. The selected patients were

evaluated for demographic variables by using semi-structured proforma and then MINI plus was used to evaluate psychiatric morbidities. The patients were assessed for their quality of life by using the WHOQOL-BREF Questionnaire. Results: Mean age of patients was 27.9±6.9 years. Ninety seven percent of the patients were male 55.2% had studied up to high secondary school and 64.9% patients were employed. Most of patients had started taking opioids between age of 21-30 years. Majority of opioid users (47.3%) preferred a combination of routes such as intravenous chasing and oral. More than half (54.4%) of patients were abusing a combination of heroin and pharmaceutical opioids and 59.7% were Hepatitis C Virus positive. In our study 84 (73.7%) patients had psychiatric co morbidities. More than half of the patients (54.3%) had major depressive disorder either alone or in combination with other psychiatric co morbidities. In the present study 39.4% had only major depressive disorder 12.3% of patients had major depressive disorder with suicidality 9.7% of patients had an anti social personality disorder 6.1% had adult attention deficit hyperactivity disorder and 3.5% of patients had the presence of general anxiety disorder and 2.6% had major depressive disorder with antisocial personality disorder . Patients with higher secondary education (51.2%) majority of employed opioid-dependents patients ( 60.7%) patients taking heroin and pharmaceutical opioids patients taking opioids using a combination of routes such as intravenous chasing and oral had more psychiatric co morbidities (48.8%) and the association was statistically significant ( $p<0.05\%$ ). Poor quality of life was reported among all the participants in respect of the Physical (15.6±7.4) Psychological ( 14.3±8.3) Social ( 17.4±8.8) domains and moderate quality of life in the Environmental domain (

25.8±7.6) and the distribution of patients according to WHO- Quality of life BREF was found to be statistically significant ( $p<0.05\%$ ). Conclusion: Our cross-sectional study found a strong correlation between psychiatric disorders and opioid dependent patients. Opioid - dependent patients have a poor quality of life and require professional and emotional support to quit their addiction and improve their quality of life. Thus the mental health professional should be aware of this association while assessing opioids dependent patients.

Saturday May 04

### **Transcriptomic Profiling Identifies a Gabapentin-Responsive Subtype for Precision Medicine in Alcohol Use Disorder**

*Joshua Wang; Yuna Kim; Eugene Laska; Kelly Ruggles; Charles Marmar M.D.*

Alcohol use disorder (AUD) is a clinically heterogeneous condition lacking targeted treatments. Contrasting with prior clinical trials that reported limited efficacy of gabapentin in reducing heavy drinking days (HDDs) our research has shown that specific clinical biomarkers can pinpoint a subset of AUD patients responsive to gabapentin. Breaking new ground this genomics study explores baseline RNA gene expression from whole blood in 342 adults diagnosed with AUD over a 6-month period to enhance precision medicine through systems pharmacology. Utilizing unsupervised learning methods including Weighted-Gene Correlation Network Analysis (WGCNA) and Non-Negative Matrix Factorization (NMF) we discerned 4 distinct patient subgroups. Two of these groups displayed significantly divergent Profile of Mood States (POMS) scores with variations primarily attributed to differential gene expression in inflammatory

pathways notably IL-1 signaling and heightened lipopolysaccharide (LPS) reactivity. This suggests a potential role of inflammation in exacerbating mood dysregulation and cravings in AUD. Guided by prior predictive signatures we examined 8 pathways encompassing voltage-gated channels alcohol reward circuits oxidative stress and neuroinflammation aimed to predict gabapentin's efficacy in reducing HDDs. We employed a validated causal inference framework wherein models trained on the gabapentin cohort were applied to placebo participants to hypothesize their response to the drug. Remarkably a 6-gene panel (AUC 0.77 sensitivity 77% specificity 75%)—consisting of neuronal and immune apoptosis regulators—effectively distinguished between responders and non-responders. In addition we compared the actual HDDs against the counterfactual predictions in the placebo group and showed a significant mean difference of 4.8 fewer drinking days ( $p=0.006$ ) for those predicted to respond to gabapentin while non-significant differences were seen for those predicted to not respond. This finding underscores the panel's relevance to gabapentin's mechanism in reducing AUD symptoms in specific patient subgroups. Our study shifts the paradigm from the previously observed minimal efficacy of gabapentin in heterogeneous AUD cohorts to a nuanced biomarker-guided approach for identifying stress response subgroups likely to benefit from the treatment. Future directions aim to incorporate mutation and epigenomic data further clarifying the predictive models and regulatory elements underlying variable treatment response. Ultimately this genomic analysis dissects clinical heterogeneity in AUD illuminating responsive subgroups for precision-aligned mechanism-based treatments.

Saturday May 04

### **What is the benefit of intermittent opioid agonist treatment in patients with prescription opioid use disorder?**

*Roger Weiss M.D.; Margaret Griffin PhD*

Introduction Studies have consistently shown that patients with prescription opioid use disorder (OUD) respond to buprenorphine treatment. Few studies have followed these patients long-term. Our research has shown that opioid abstinence is associated with receipt of opioid agonist treatment. We also found that many patients did not use agonist treatment consistently. Thus the benefits of intermittently receiving agonist treatment are unclear. Objective The current study examined patients during the 3.5 years following participation in a 3-month treatment trial for prescription OUD. The association between agonist treatment and opioid use was examined at 3 follow-up time points. Methods This secondary analysis (N=309) of a multi-site national randomized controlled trial of treatment for prescription OUD assessed variability in receiving opioid agonist treatment through the 3.5-year follow-up period and the association between agonist treatment and opioid abstinence. Participants were assessed at 18 30 and 42 months following study entry; participants with only one follow-up assessment (n=29) were excluded from this analysis. Results During follow-up most study participants reported current opioid abstinence at >1 assessment: 38% were always abstinent 41% sometimes abstinent and 21% never abstinent. Half of the participants (51%) never reported current receipt of opioid agonist treatment with the remainder split between sometimes (26%) or consistently (23%) receiving this treatment. Participants



who reported receiving agonist treatment at all follow-up assessments were most likely to be always opioid-abstinent (69%) with 25% sometimes and 6% never opioid-abstinent. Participants who reported receiving agonist treatment at none of the assessments were equally likely to be abstinent never (32%) sometimes (35%) and always (32%). Participants who sometimes reported receiving agonist treatment were most likely to report abstinence sometimes (65%) with fewer reporting abstinence never (14%) or always (21%). As expected those always receiving opioid agonist treatment were most likely to be consistently opioid abstinent (69%) compared to those sometimes (21%) or never (32%) receiving opioid agonist treatment. Also as expected those never receiving opioid agonist treatment were most likely to report never being opioid-abstinent (32%) compared to those sometimes (14%) or always (6%) receiving opioid agonist treatment. Notably those who sometimes received this treatment were more likely to be abstinent sometimes than those who never received opioid agonist treatment (65% vs. 35%) and were less likely never to be abstinent than those who never received this treatment (14% vs. 32%  $p < 0.01$ ).

**Conclusion** Receiving opioid agonist treatment has been shown to be associated with opioid abstinence during long-term follow-up. This study extends those findings to show that even those who only intermittently receive this form of treatment are likely to benefit.

Saturday May 04

### **Roid Rage"-The Psychiatric Manifestations of Anabolic Steroid Use: A Review of the Literature and New Case Findings"**

*Andrew Greenhalgh; Amanda Wilder*

**Abstract:** Intro: The psychiatric implications of androgenic anabolic steroid (AAS) use has been a rising issue for 30 years in psychiatry due to the increase in body dysmorphia in young adult males. Rarely excessive and unregulated use can be accompanied by psychiatric symptoms known as "Roid Rage." Despite the known destructive tendencies of AAS-use the literature is sparse on cases discussing the diagnosis and management of this condition in the emergency psychiatry setting. Here we conducted a review of case studies regarding AAS-use behavioral sequelae and report on a new case of AAS induced mood disorder in a 20 year old male US Navy airman. **Methods:** We conducted a literature search of case studies using Embase and PubMed with key terms "Anabolic steroids" AND "Case report" and "Anabolic steroids" AND "Case." Cases were considered from the last 10 years due to rapid changes in "designer" AAS. Inclusion based on psychiatric AAS-related manifestations relied on case abstracts and titles with clinical judgment assessing relevance according to symptomatology. **Results:** A total of 13 cases of AAS-use behavioral manifestations were found in the literature. This report considered all behavioral symptoms and was not confined to any one diagnosis. The average age of patients exhibiting behavioral disturbance was 28.2 years with all identifying as cisgender heterosexual male. The most commonly reported psychiatric manifestation of AAS-use was aggression (seen in 8 of 13) as well as attempted or completed homicide (seen in 6 of 13). Other symptoms included psychosis mania delirium depression and suicidality. Our case describes a 20-year-old cisgender heterosexual male in the US Navy admitted for an interrupted suicide attempt amid subacute depressive symptoms and excessive alcohol use. Following days of

patient agitation depression and suspected underreporting a command-ordered wellness check on the patient's barracks room uncovered various AAS types syringes and needles. The patient admitted to 15 weeks of AAS use recently ceased and provided a comprehensive history aiding diagnosis. Referred for substance use disorder treatment he received outpatient endocrinology and primary care. Initial treatment encountered challenges due to hypogonadotropic hypogonadism effects. Continual engagement with our Substance Abuse Program 50 mg clomiphene and 150 mg trazodone led to improvement in symptoms. As of this writing the patient has been dismissed from the military.

Conclusion: Given the rise of AAS use it is important to have AAS-induced mental health disorder when evaluating an otherwise healthy patient for new onset psychiatric symptoms. Taking a thorough history using collateral contacts and expanding recreational drug work-up to include common AAS are imperative to ensuring these patients do not slip through the cracks and potentially cause harm to themselves or others. "

Saturday May 04

### **A unique case of lymphadenopathy secondary to Lamotrigine treatment**

*Sukaina Rizvi M.D.; PRACHI PATEL*

Lamotrigine belongs to an anticonvulsant class of drug which has its clinical implications in maintenance treatment of bipolar disorder bipolar depression and neuropathic pain. It works as a voltage gated sodium channel antagonist. It is associated with common side effects such as benign rash headaches visual disturbances tremors and many more. It can also lead to rare but

life threatening conditions Steven-Johnson syndrome Toxic epidermal necrolysis or drug hypersensitivity syndrome. However there are only a few cases that recognize rare side effects of lamotrigine related lymphadenopathy. Herein we present a case of a 25-year old Hispanic American female who developed submandibular and submental lymphadenopathy due to lamotrigine after three weeks of initiation therapy. This case is unique as patients presented with isolated lymphadenopathy without any systemic findings. Very few cases have been reported in literature with such findings.

Saturday May 04

### **Alcohol Withdrawal and Benzodiazepine Use in an Acute Inpatient Rural Hospital**

*Sonja Johnson D.O.; Joseph Jackmovich*

Introduction On August 19 2021 Good Samaritan Hospital initiated an alcohol withdrawal protocol based on research as listed below. Good Samaritan Hospital is a rural hospital in Vincennes IN the county seat of Knox County Indiana which as of 2021 has a population of 35956 people and catchment area that includes 181117 people over a 8 county area.<sup>4</sup> The need for standardization prompted a treatment protocol to be agreed upon and implemented throughout the internal medicine department. The purpose of this study is to standardize and thereby decrease benzodiazepine use for alcohol withdrawal through a standardized hospital-wide protocol. Methods A chart review was conducted to complete a pre-post interventional research design. Charts were evaluated for all patients medically admitted to Good Samaritan Hospital for AUD related diagnoses for six months before and six months after protocol initiation. Charts were

evaluated for the following: length of stay (LOS) number of different benzodiazepines received number of Ativan equivalents received if a titration was used readmissions within 30 days and complications during hospitalization. To analyze the data each variable from both groups was evaluated and compared using chi-square and t-tests where appropriate. Descriptive statistics were used to evaluate frequency of specific complications. Results The two groups consisted of patients admitted before and after the implementation of the protocol. The breakdown was 90 patients before ages ranging from 29 to 79 with 78% men and 88 patients after with ages ranging from 17 to 84 with 73% men. There was a significant decrease in total Ativan equivalents prescribed (10.61 to 9.51 units) for patients as well as a significant decrease in medical complications (44.3% to 14.1%). Hematologic complications specifically decreased significantly (14.77% to 1.18%). The length of stay did significantly increase (3.99 to 4.52 days). Conclusions & Discussion The current guideline for the management of AUD is based on the use of benzodiazepines. This study evaluated the treatment of patients admitted to the medical hospital with an AUD associated diagnosis. While length of stay did significantly increase the amount of Ativan equivalents that patients received significantly decreased along with the complications experienced. Of importance hematologic complications significantly decreased. The goal of the protocol is to uniformly guide alcohol withdrawal symptom management and reduce complications from benzodiazepine overuse. Key features of the protocol include emphasizing adjuncts starting naltrexone and establishing a scheduled taper with breakthrough prn dosing. This should result in better overall care as it no longer relies solely

on nursing CIWA scores which can be unreliable and varies greatly depending on the evaluator. With the tighter ranges more patients are more likely receiving adequate detox resulting in a lower need for higher dosages later.

Saturday May 04

### **Characterizing hallucinogen use disorder among last-year adult users of hallucinogens**

*Tesiya Franklin BS; Jennifer Ellis; Austin Zamarripa; David Mathai*

Background: Hallucinogens are being increasingly explored for their therapeutic utility in various mental health conditions. However they have also been classified historically as substances with high potential for abuse. As such there is a need to better characterize epidemiological data on abuse liability and potential for risk. In this study we investigated the prevalence and underlying factors associated with DSM-V hallucinogen use disorder (HUD) within a large cohort of Americans (aged 12 and above; n = 36 284) who used hallucinogens within the past year. Methods: Individuals in this study were drawn from the 2020 National Survey on Drug Use and Health (NSDUH) dataset. We examined rates of substance use disorders among individuals reporting past-year use of the following substances: alcohol cannabis cocaine heroin and hallucinogens. To analyze correlates of HUD we conducted logistic regressions in a restricted sample of adults who reported using any hallucinogen in the past year (N = 1067). The selected correlates included 1) demographic variables 2) specific types of hallucinogens used in the past year and 3) experiencing a major depressive episode (with and without severe role impairment) in the past year. We presented

both unadjusted and adjusted odds ratios and results with and without analysis weights calculated by NSDUH to allow for better representation of the US population. Results: Among persons reporting past-year hallucinogen use the rate of hallucinogen use disorder was 5.9% (3.6% weighted). Comparatively these rates were 17.8% (15.8%) for alcohol 29.9% (27.7%) for cannabis 19.1% (22.4%) for cocaine and 76.1% (72.2%) for heroin. The subset of adults reporting hallucinogen use in the past year was comprised of many young adults aged 18-25 (55.3%). In unweighted adjusted analyses screening positive for hallucinogen use disorder was associated with being unemployed (OR=1.88 95% CI = [0.98 3.60]) using multiple hallucinogen types (OR=2.31 95% CI = [1.15 4.65]) and experiencing a major depressive episode with severe impairment (OR=3.21 95% CI = [1.80 5.74]). At this level of analysis there were no significant differences between mono-substance use of LSD MDMA or ketamine and risk for HUD. Conclusion: The low prevalence of hallucinogen use disorder in this sample of last-year hallucinogen users is consistent with other scientific literature suggesting that hallucinogen use disorder is a possible but relatively uncommon outcome of hallucinogen use. These data also lend support for better defining typology for hallucinogen users as specific use patterns and individual characteristics may increase the risk for a substance use disorder. While it is unclear the extent to which these findings translate to the therapeutic use of hallucinogens in medical contexts researchers and clinicians could benefit from improved understanding of and risk-assessment for problematic hallucinogen use.

Saturday May 04

## Demographics of Opioid Deaths Versus Naloxone Distribution in Lucas County

*Alyssa Davis; Erik Southard; Chadwick Huss; Tanvir Singh*

Objective: Addiction Medicine Club was created by medical students at the University of Toledo College of Medicine and Life Sciences to spread awareness of addiction medicine and contribute to the efforts to reduce opioid overdoses in Lucas County. We partner with the Lucas County Health Department and the CommunityCare Clinics to provide naloxone kits and fentanyl testing strips to patients at a student-run clinic in Toledo Ohio. Opioid overdoses continue to be a major cause of preventable deaths across the country. This includes Lucas County Ohio which experienced a 38.6% increase in opioid deaths from 2019-2020 likely due to the COVID-19 spike. With continued prevention efforts the health department has noted a 7% decline in deaths by overdose in 2021 (n=274) to 2022 (n=221). From January 2021 to June 2023 the proportion of fatal opioid overdoses by age range were 35-44 years (27.5%) 25-34 years (27.3%) and 45-54 years (20.8%). The majority of people who died by overdose were male (66.1%) versus female (33.9%). The majority of deaths by opioid overdose were among White people (73.1%) versus Black (26.5%) or Hispanic/Latino (0.4%). Although Black individuals make up a minority of opioid overdose deaths Lucas County reported a significant increase in the proportion of deaths from 9% in 2019 to 26.5% in 2022. This shifting demographic among opioid deaths in the county is alarming and far exceeds the uptick of statewide trends among this population. The goal of this project is to compare the demographic information of deaths by opioid overdose to

the population receiving naloxone in Lucas County. Methods: From January 2021 until July 2023 more than 11600 naloxone kits were given to the at-risk population in Lucas County. To better understand the population in need of naloxone the Lucas County Health Department collected demographic information including age gender and race of those who have received naloxone kits. Results: The largest proportion of naloxone recipients were ages 35-44 years (23.1%) followed by 25-24 years (20.6%) and 45-54 years (18.4%). A majority of people were female (53.3%) versus male (45.6%). Finally most naloxone recipients were of White race (59.8%) or Black (28.9%) with a small minority identifying as Hispanic/Latino (7.2%). Conclusion: Within Lucas County the largest number of naloxone recipients within each demographic group excluding gender correlates with the rates of opioid overdose. This suggests that the target groups of naloxone distribution are being reached. However the disparities in naloxone distribution between Black people versus White people may be a contributing factor to the rise in opioid overdoses among the Black population. This demographic information should be used to focus prevention efforts on at-risk members of the community and to define populations which may have lack of access to harm-reduction services.

Saturday May 04

### **Determinants of quality of life and mental health in lung cancer patients: A cross-sectional study**

*Theresa Halms; Marcus Gertzen*

Background: Lung cancer (LC) represents one of the most common cancer diagnoses and accounts for the largest number of cancer deaths worldwide. Although Quality of Life

(QoL) is considered to be a critical endpoint in health research and poorer QoL among cancer patients has been demonstrated compared to the general population data on factors associated with QoL in LC patients are limited. Given that smoking constitutes the main cause for the development of LC and its negative impact on the disease trajectory we hypothesize that smoking status is negatively associated with QoL in LC patients. Aims: The purpose of this cross-sectional study is to investigate the impact of smoking status on QoL as well as to determine other factors associated with QoL among LC patients. Methods: From December 2021 to April 2023 patients > 18 years of age treated for LC at the University Hospital Augsburg Germany were invited to participate in the study. By means of validated self-administered questionnaires symptoms of borderline personality disorder (BSL-23) depression (BDI) anxiety and stress (DASS-21) pain (MPQ) and quality of life (MQOL-15) were assessed. Further participants were asked to provide information on sociodemographic characteristics and their smoking behavior. Results and findings: Findings refer to a sample of 51 respondents (49% female) with a mean age of 63 years (SD ± 9.7). The majority of participants (59%) were ex-smokers 25% were active smokers and 16% were never-smokers. Results showed no significant association between smoking status and overall QoL as well as the physical psychological and existential domains of QoL ( $p=0.395$   $p=0.356$   $p=0.460$   $p=0.673$  respectively). For social QoL one-way ANOVA with šidák correction revealed significant differences between active and ex-smokers ( $p=0.022$ ) indicating better social QoL among active compared to ex-smokers. Further results showed significant associations between overall QoL as well as the physical psychological and existential domains of QoL



and symptoms of borderline personality disorder depression anxiety stress and pain (all  $p < 0.003$ ) indicating lower QoL in the presence of mental health conditions. Conclusion: Results suggest an impact of several factors on QoL in LC patients. In particular the influence of perceived pain and pre-existing mental health conditions such as depression borderline personality disorder or anxiety were associated with poorer QoL.

Saturday May 04

### **Digital Addiction in the Smartphone Era: Exploring Patterns and Influences Among Young Adults**

*Rachael Murphy M.D.; Christopher Sielski M.D.; Kara Jacobs M.D.*

Background: The surge in digital media addiction amplified by the challenges of the COVID-19 pandemic has propelled increasing engagement with various platforms such as social media online videos and video games (12). Analogies to narcotic drugs underscore its severity (3). The rise of both social media and gaming addiction aligns with the access and popularity of smartphones. This intricate issue affects health academics employment and social life emphasizing its broader implications. Accordingly the aim of this study is to systematically evaluate the prevalence characteristics and influences of digital media activity. Methods: The study employed two research methods: systematic review and survey. The review involved searching databases for qualitative research from 2017-2023 related to smartphone and digital media addiction. The survey purposed to identify media usage patterns and influences among 50 adults (18-35) with postgraduate degrees via Reddit Instagram and X (formerly Twitter) without offering incentives. Basic statistical techniques were

employed primarily using percentages of responses. Results: A review of previous research revealed the negative impacts of digital addiction on health and well-being. Various studies evidenced links between behavioral addictions mental health and excessive smartphone use. Some studies found correlations between smartphone addiction scores and depression anxiety and sleep quality levels. The overall survey response rate was 100%. Any form of social media was used daily by 85.71% and online videos were watched daily by 70.83% of survey respondents. Reading" and "gaming" showed similar daily (31.25% and 29.17%) and weekly (37.5% and 8.3%) usage in this group. Health experts have recommended that an acceptable amount of screen time is less than two hours a day (4). Smartphone addiction appeared to be forming as 61.22% spend up to 1-3 hours on mobile devices daily while 28.57% spend over 3 hours daily. Regarding influences "friends" (98.00%) are trusted for app choices due to shared age followed by "family" (86.00%) and "educational content" (74%). Conclusion: Prior research underscores the detrimental impact of digital addiction on mental health and social well-being emphasizing the need for a comprehensive understanding and targeted interventions. By fostering a balanced relationship with technology the goal is to alleviate negative effects and encourage mindful integration for improved well-being."

Saturday May 04

### **Examining Use of Simulation-Based Education in Psychiatric Medical Education**

*Sakshi Sehgal MPH MA*

Background: The use of simulation-based education (SBE) particularly within the field of

medical education has drastically increased within the past decade. The majority of US-based medical schools have adopted SBE in at least some capacity with a range of modalities from partial body task trainers and high-fidelity manikins to standardized patient actors and extended reality. SBE is grounded in multiple learning theories that support the use of experiential learning as a cornerstone for directly applicable and immediately relevant concepts and skills for adult learners. This review sought to synthesize the literature on psychiatric SBE for medical students. **Methods:** A search of relevant medical education and clinical literature was conducted primarily using PubMed as well as additional sourcing through MEDLINE and Google Scholar. Search criteria (including related terms tagged in MEDLINE) included (simulation learning) and (psychiatric education) filtered for public access initially yielding 222 results. Exclusion criteria for these results excluded articles without a specific focus on medical education and those articles that were not directly related to SBE yielding 25 results for review. From these results five articles were considered within defined inclusion criteria: United States-based studies published between 2013 and 2023 studies with medical students as participants and studies that addressed psychiatric education. **Results:** Among the studies reviewed a total of 673 participants were considered. Each study incorporated a simulation-based activity related to psychiatric education in which medical students participated and were assessed using measures of post-activity confidence and comprehension of the relevant concepts. Three out of five studies (60%) demonstrated a statistically significant increase (two of which reported significance at  $p < 0.001$  and one reported  $p < 0.05$ ) in medical student confidence and comfort including ease of

taking a history considering patient presentation arranging differential diagnoses and developing an assessment & treatment plan. The remaining two studies additionally reported increases in student performance and high Likert-type scale scores assessing similar measures of self-efficacy following the activity. **Conclusion:** Medical students completing a simulation-based activity as part of the psychiatric education curriculum expressed greater post-activity comfort with diagnosis and treatment plans as well as developing effective rapport with the patient. Statistically significant increases in learner performance and confidence were reported in the majority of studies as well as improvement from baseline in all included studies. These results demonstrate the positive effects of SBE in psychiatric education.

**Saturday May 04**

### **Gas Station Heroin: Tianeptine Misuse and Implications**

*Ihechi Akwuole; Ayyub Imtiaz M.D.; Ankur Sah Swarnakar M.D.; Ashwin Jacob Mathai*

**Background:** Tianeptine also known as “gas station heroin” or “zaza” is a medication structurally similar to tricyclic antidepressants (TCAs) approved for depression and anxiety in some countries. Tianeptine is not FDA approved in the United States for clinical use; however it is still marketed and sold over the counter and online as a nootropic or cognitive enhancer in several states. At high enough doses tianeptine is able to act on the mu- and delta-opioid receptor and induce euphoric effects. As a result there has been an increased interest in tianeptine in the United States. There is also evidence suggesting that tianeptine possesses a low tolerance

threshold as compared to other medications requiring higher doses to achieve desired effects resulting in increased potential for misuse. The purpose of this review is to consolidate the current literature regarding tianeptine misuse in the United States. Methods: A comprehensive but non-systematic literature search was performed using relevant keywords on PubMed PsycInfo and Google Scholar. The search resulted in 14 case reports on patients with chronic tianeptine abuse. Qualitative analysis was performed to assess common factors symptoms and themes that were present within the cases. Results: Tianeptine incidence has increased 24-fold over the past few years with reported cases demonstrating individuals ingesting over 40 times the maximum recommended dose. Tianeptine has been ingested orally snorted and injected per reports. Tianeptine comes in 2 salt forms sodium and sulfate with the latter thought to be more potent and longer lasting. Despite the longer-lasting action its half-life is estimated to only be 2.5 hours. This is due to its metabolism by beta-oxidation rather than cytochrome enzymes in the liver unlike other TCAs. Both TCA and opioid overdoses have respiratory suppression but the former has pupil dilation and opioid overdose has pupil constriction. Tianeptine overdose resembles opioid overdose but is often complicated with TCA withdrawal symptoms too due to the short half-life. The common symptoms seen in TCA withdrawal are due to cholinergic overdrive and includes symptoms such as anxiety sleep disturbances hot flashes agitation and gastrointestinal distress which are also present in tianeptine withdrawal. It is speculated that individuals presenting with opioid overdose symptoms concurrently exhibiting agitation and severe abdominal pain or other TCA withdrawal symptoms may be indicative of tianeptine overdose. There

have been successful cases of managing acute tianeptine overdose with nasal and intravenous naloxone. Conclusion: With the ongoing evolution of the opioid crisis and as the demand to achieve opioid-like effects through various substances continues to increase psychiatrists should factor in the use of tianeptine when assessing patients displaying clinical signs of opioid use despite negative urine drug screens.

Saturday May 04

### **Handoff Policy Among Psychiatric Residents in an Inpatient Psychiatric Setting**

*Breonna Kinnison D.O.*

Objective: The objective of this study is to further update and expand on information obtained by Arbuckle et al. (2014) by investigating protocols and policies regarding transitions of patient care implemented by US psychiatry residency programs. In addition to policies this study investigated challenges faced by programs and highlights a proposed best practice as it relates to inpatient psychiatric facilities. Methods: A 17-item survey was distributed to US adult psychiatry residency program directors. The survey contained questions regarding handoff policies and procedures among residents in the inpatient psychiatric setting training curricula specific handoff types in various contexts impacts of implemented handoff policies and methods of assessing handoff competency. Data was analyzed qualitatively using descriptive statistics. Results: There was an 18% response rate with 55 survey respondents out of 309 program directors. Only 11% did not have an existing handoff curriculum. For training curricula 60% use lecture and didactics and/or observation with feedback (60%). To assess competency 72%

implement direct observation and feedback by an attending. Program directors shared similar opinions that handoff would reduce patient harm (60%) and medical errors (54%). Verbal in person handoff was used for transitions from primary day team to night team (50%) and night team to day team (46%). Written handoff in the EMR was used primarily when transitioning from weekday primary team to weekend covering team (34%) and weekend covering team to weekday team (38%). The majority (63.0%) did not use standardized options such as I-PASS SBAR etc. Conclusion: Overall program director opinions regarding the impact of handoff policy training and implementation generally aligned with the suggestion that with improved handoff training patient safety would improve. In order to appropriately suggest a best practice for the inpatient psychiatric setting it is important to consider the various contexts in which handoff would be occurring. Adult psychiatry residency program directors report they are currently utilizing in person verbal handoffs for the majority of their handoffs (primary day team communications with night team) but utilize written handoff in the EMR more when communications occur among weekday primary teams and weekend covering teams and with residents assuming care from off-going residents on rotations. Connecting these findings with malpractice claims more commonly associated with verbal handoff communication failures rather than written handoff communication failures furthers the need to investigate outcomes associated with specifically implementing verbal versus written handoff communications in the inpatient psychiatric setting. These findings can be more widely applied to other healthcare providers outside of residency programs.

Saturday May 04

### **Healthcare Students' experience of Screening Brief Intervention and Referral to Treatment (SBIRT) training: A Qualitative Analysis**

*Courtney Hawes Medical Student; Victoria Balkoski; Jeffrey Winseman M.D.; Nicole Bromley PsyD*

Background: The misuse of alcohol tobacco and drugs is this country's most serious health problem. Substance use exists on a continuum and not all individuals who may be at risk for adverse health consequences and could benefit from treatment or intervention will require an addiction specialist. SBIRT is an evidence-based intervention that includes: screening patients for substance use and identifying their risk level brief intervention that relies on motivational interviewing techniques and referral to treatment for individuals with a substance use disorder who may require more specialized treatment. Method: Following a SAMHSA awarded SBIRT grant our Psychiatry Department at a large Academic Medical Center trained a diverse sample of health care trainees including physician assistants (N=53) nurse practitioners (N=66) pharmacists (N=136) psychiatry residents and psychology pre-doctoral interns (N=38) and medical students (N=168). Training in SBIRT consisted of online modules a didactic session that included presentations and review materials and role plays with feedback. All trainees were invited to complete a post-training survey that included two open ended questions: "What about the training was most useful in supporting your work and responsibilities?" and "How can we improve the training?". Results: We received responses from 449 trainees. Two coders independently analyzed the responses using a thematic analysis and generated an initial

list of codes. Coders then met with two additional investigators to discuss the codes. The coding group addressed coding discrepancies and reached a final consensus of 26 unique coded responses for the question pertaining to “Usefulness”. These codes were subsequently collated into 5 lower order themes and 2 higher order themes which were labeled “Education” and “Applicability”. For the question pertaining to “Improve” coders reached a final consensus on 16 unique codes and subsequently collated these codes into 6 lower order themes and two higher order themes which were labeled “Additional Training” and “Modification of Training”. Conclusion: Overall students in our study found training in SBIRT to be a useful tool for addressing and approaching the topic of substance use with patients. This may suggest that many trainees initially felt discomfort and ill prepared to address substance use with patients. Many trainees commented on the usefulness of specific education related to the communication and motivation skills they learned and felt that these were widely applicable. Students also provided useful information about how SBIRT training can be improved. These themes included additional role play practice and more information pertaining to their specialty. Trainees also suggested that future trainings reduce redundancy include more interactive components and offer refresher sessions. SBIRT appears to be an effective intervention that is useful for a variety of health care disciplines.

Saturday May 04

### **Initial Outcomes from a Pilot Course in Resident Education by Article Discussion (READ)**

*Samuel Dunham M.D.;M.S.; Kevin Ha; Sara Noble*

Background: In 2022 the American Board of Psychiatry and Neurology (ABPN) introduced the Article-Based Continuing Certification (ABCC) Pathway as an alternative to the traditional Maintenance of Certification (MOC) exam. To boost proficiency in reading research articles and encourage participation in the ABCC pathway we designed the Resident Education by Article Discussion (READ) course implementing a Team-Based Learning (TBL) format. Offered in August 2023 this elective course targeted psychiatry residents in post-graduate years 2-4. Spanning 4 weeks the course convened weekly for 4 hours (2 hours in the final week) on Tuesday afternoons. Eligibility hinged on achieving a score  $\geq$  25th percentile on the Psychiatry Resident In-Training Examination (PRITE) the preceding year. Methods: Assigned articles and supplementary materials were perused by participants ahead of classes which featured group discussions and ABCC-style group tests. In pre- and post-course surveys residents rated (scale of 1-5) their knowledge of the ABPN recertification process value of understanding the PICO method confidence in reading and interpreting scientific articles confidence in discussing scientific articles and likeliness to continue engaging with scientific articles. These ratings were compared using paired-samples (pre vs post) t-tests reporting Hedges'  $g$  (Cohen's  $d$  correction) and  $p$ -values. Results: Of the 46 residents eligible for elective coursework 11 residents enrolled in the course while the remainder enrolled in other electives. Additionally 5 fourth-year medical students also participated. Participants' knowledge of the ABPN recertification process increased significantly (178% increase  $g=0.67$   $p<0.001$ ). Understanding of the PICO



method's value saw a 17% increase ( $g=0.67$   $p=0.005$ ). Confidence in reading and interpreting articles' methods and results sections improved significantly (88% increase  $g=0.53$   $p<0.001$ ) as did confidence in discussing articles in group settings (100% increase  $g=0.60$   $p<0.001$ ). While likelihood of reading articles increased slightly post-course (6% increase  $g=0.64$   $p=0.191$ ) intention to present at the residency journal club significantly rose (50% increase  $g=0.51$   $p<0.001$ ). Conclusions: The ABCC pathway offers a flexible approach to MOC that encourages lifelong learning. The READ course's TBL format effectively enhances knowledge and skills related to critically analyzing and discussing scientific articles. These findings highlight the READ course's potential to foster research article literacy and facilitate active engagement with the ABCC pathway thereby contributing to the professional development of psychiatry residents.

Saturday May 04

### **Investigation into the presentation of cannabis induced psychosis in previously healthy individuals and changes in brain morphology: Literature Review**

*Deanna Egenburg M.D.*

Background: Legalization of cannabis for recreational use has led to increased use and heightened public discussion regarding the potential to induce psychotic-like presentations in individuals with no prior psychiatric history. Objective: This literature review aims to highlight the psychotic manifestations and morphological changes in the brain associated with cannabis use in cannabis-users with no prior psychiatric history. Methods: A search was done on PubMed CambridgeCore Jove ScienceDirect

and JNeurosci. Data is analyzed from a systematic review of case reports from a 17-center study across six countries including 655 unique cases on first episode psychosis (FEP) between the ages 18-64 and 654 controls cannabis-users with no clinical diagnosis or treatment for psychological disorder. The money spent on cannabis was used to quantify the extent of use. 3T magnetic resonance imaging (MRI) scans of 10 cannabis-induced psychosis (CIP) patients and 12 non-psychotic cannabis users (NPCU) were used to draw conclusions of the morphological changes in the brain. A modified Cannabis Experience Questionnaire and Brief Psychiatric Rating Scale (BPRS) was used respectively to quantify cannabis experiences. Results: The literature evidenced notable differences in the presentation of new onset psychotic symptoms between cannabis-induced psychosis (CIP) patients and non-psychotic cannabis users (NPCU). In CIP patients with FEP symptoms of thought disorganization and hostility/suspiciousness were reported more frequently than NPCUs. CIP patients with FEP reported higher cEEs and psychotic-like experiences (cPLE) no matter the frequency of use money spent or potency of drug use compared to controls. Additionally CIP patients demonstrated lower gray-matter volumes in the prefronto-temporo-limbic network rich in CB1 receptors that bind to tetrahydrocannabinol (THC) the principal ingredient in cannabis compared to NPCUs ( $p < 0.001$ ). Conclusion: These findings suggest significant implications of cannabis in the presentation of new onset psychotic symptoms in patients with no prior psychiatric history. A CIP diagnosis prior to FEP seems to predict elevated positive and negative symptoms of psychosis. Additionally cannabis use in patients without prior psychiatric history who recently developed

psychosis demonstrated reduced volumes of gray-matter in regions of the brain typically stimulated by THC. While substance comorbidities were considered to isolate cannabis use in the development of FEP confounding variables were not teased out. Understanding the mechanisms underlying these psychotomimetic experiences is crucial for developing targeted interventions and informing public health policies to mitigate potential adverse effects of cannabis use on vulnerable individuals.

Saturday May 04

### **Lessons Learned from ‘Psych in the Cinema’ Residency Curriculum at a Military Hospital: Can Attitudes on Substance Misuse Change?**

*Ian Yeager D.O.; Rachel Han M.D.; Jon Lindefjeld M.D.; Jose Roberts D.O.; Candice Passerella*

Background: Bias in medicine and psychiatry impacts patient care and outcomes. Cinema is a powerful medium to tell human stories and peer-led discussion-based learning fosters attitude change and cultural awareness reducing bias. Understanding different cultural contexts creates opportunities for connection between colleagues and with patients. Understanding and demonstrating proficiency in diversity equity and inclusion (DEI) is a core ACGME milestone. ‘Psych in the Cinema’ is a resident-created and operated initiative that has been folded into core didactics to meet these goals. The model consists of two events: quarterly noon conferences during which a short clip is shown followed by small group discussion and bi-annual DEI-related film showings during didactics followed by discussion. The most recent noon conference was on the topic of addiction which has

unique cultural implications and career considerations in the military due to national security concerns and the military’s rank structure. Methods: We present quantitative data on military psychiatry residents’ attitudes toward substance misuse using anonymized pre- and post-intervention surveys after viewing a substance-use related short clip and subsequent peer-led discussion. Responses to 5 questions from the Yale Brief Substance Abuse Attitude Survey included in our survey were recorded using a Likert five point scale. We also share lessons-learned to aid other residencies in implementing this initiative. Results: The study involved 26 participants (15 in-person 11 virtual) in pre-intervention responses with a slight drop in the post-intervention participation (7 virtual 16 in person). Of note there is a discrepancy in one pre- versus post-intervention in person participant. Among the pre-intervention responses 88% of respondents indicated that they “know someone personally who has struggled with addiction.” Based on data from the specific Yale survey questions results show that attitudes towards substance misuse use disorders and treatment modalities remained fixed. However among the post-intervention responses 30% of participants answered that their attitudes on the survey questions changed after this intervention. Conclusion: The global change in attitudes showcases that this intervention did have an impact on participants and can be further implemented to discuss sensitive topics. Cinematic storytelling can be leveraged to help psychiatry trainees develop a deeper understanding of the differences in human experiences due to differences in backgrounds and identities. Cinema can be used to explore examine and analyze how systemic oppression shapes our experiences. The goal of DEI Psych in Cinema is thus to

improve awareness of DEI issues and how bias comes into play in all human interactions to include the psychiatrist-patient interaction and to ultimately grow our abilities to understand and empathize with those whose experiences differ from our own.

Saturday May 04

### **Measuring Standard of care Physical Parameters in an Academic Psychiatric Practice During COVID Pandemic – a Trainee Driven Quality Improvement Study**

*Himangshu Rathinakumar M.D.; James Luebbert M.D.; Karuna Poddar MD MS*

**Background:** Psychiatric services need to cater to certain evidence-based quality indicators that promote patient safety and guide standards of care. Our Child and Adolescent psychiatry (CAP) fellow outpatient clinic provide psychotherapy and pharmacological management to the population in a major metropolitan city who belong to various social determinants of health and may have limited access to quality care. Our clinic provided care through the COVID period through increased use of telemedicine modality and continued to maintain the evidence-based quality measures for our patients who were on medication management by tracking their necessary vitals. The COVID pandemic has brought about a lot of changes in psychiatric practice. Simultaneously our Telepsychiatry has been evolving and the pandemic accelerated its use and accessibility. This study aims to determine if this has resulted in changes in compliance with evaluation of basic parameters of our patients during the peri-pandemic era. **Objectives:**

Evaluate the quality of care before COVID pandemic using certain indicators  
Determine the changes of these

indicators during and after the pandemic

**Evaluate the effect of trends in telemedicine on these indicators**  
**Methods:** This retrospective analysis looks at the practice of basic clinical parameters during outpatient visits pre during and post COVID and to determine any variability in these practices. These include height weight BMI percentiles charts of these parameters pulse and BP measurement (8 parameters) with additional progress note if abnormal BMI. As part of the division QI project we have been collecting data at two time periods of fall and spring in a year. 2-3 patients per fellow for a total of 12-22 charts were randomly selected each year and they were evaluated for compliance with measuring these parameters. **Results:** Before the pandemic an average of 5 out of 9 variables met the quality-of-care standard of 90% compliance (range 3-9). During the pandemic (Jan '20 to June '21) 4.5 variables on average met the standard (range 1-8) and after the pandemic 4.5 variables again (range 3-6). ANOVA analysis showed no difference between the groups ( $p=0.98$ ). The compliance was maintained by pulling data from care everywhere functionality of the electronic medical record system for example in the 2023 data: nine of the sixteen patients (56.25%) had measurements pulled from nearby hospitals and clinics using the same electronic health record system. **Conclusion:** With the changes in the peri pandemic requirements from exclusively virtual provision of care to hybrid provision of care in the immediate post pandemic era using telemedicine and adapting to the virtual child psychiatric practice the clinic continued catering to attention through quality measure and maintained quality of care.

Saturday May 04

## **Mood over Matter: literature review on benzodiazepine tapering current practices and updates on adjunct mood stabilizers**

*Phuong Vo M.D.; Karim Rashid; Zahab Qazi; Cesar-Michael Rafano M.D.*

Benzodiazepines widely prescribed to treat anxiety and insomnia offer relief but come with a considerable risk for misuse and dependence. A recent study published in JAMA Network Open reveals that between 2014 and 2016 about 10.4% of U.S. adults or an estimated 25.3 million reported using benzodiazepines. Alarming nearly 17.2% of these individuals admitted to misuse. Furthermore the National Institute on Drug Abuse (NIDA) documented that benzodiazepines were implicated in over 14% of opioid overdose deaths in 2021. A separate report from the CDC pinpointed benzodiazepines as a factor in nearly 7000 overdose deaths across 23 states from January 2019 to June 2020 constituting 17% of all drug overdose deaths. This timeframe saw a staggering 520% surge in deaths related to illicit benzodiazepines while fatalities from prescribed benzodiazepines rose by 22%. As such Psychiatry and Addiction medicine play an integral role in being vigilant about benzodiazepine misuse abuse and addiction and providers need to be up to date on practices for helping patients taper to discontinuation if possible. Significant challenges exist during the process of tapering patients who have been chronically using benzodiazepines including difficulty tolerating intense withdrawal symptoms such as heightened anxiety mood shifts sleep disruptions and tremors. If done inappropriately sudden withdrawal can prove fatal with delirium tremens and seizures. This poster seeks to document a brief literature review of current benzodiazepine tapering practices review outpatient

challenges of detoxification and address barriers to complete discontinuation with a specific emphasis on reviewing literature regarding mood stabilizer adjunct use. Historically in multiple forms of literature Carbamazepine has been proposed to be used adjunct or prophylactically to curb intense withdrawal symptoms and keep patients on track for discontinuation. However this medication has been met with much criticism regarding efficacy. This medication is well documented to have a series of concerning side effects including skin reactions agranulocytosis leukopenia and significant drug-drug interactions by nature of its metabolism begging the question of whether the risks are really worth the benefit. Oxcarbazepine has been proposed as an alternative with small scale clinical trials noting some efficacy in helping with detoxification with lower side effect concerns. Other mood stabilizers particularly with anti-epileptic effects warrant a further look for those with benzodiazepine addictions. Through a more current literature review we hope to increase the tools available to psychiatrists for more success in discontinuation and maintaining sobriety for patients.

**Saturday May 04**

## **Naloxone Distribution at Project DAWN Sites in Lucas County Ohio and the Role of Bystanders in Opioid Overdose Reversals: A Retrospective Study**

*Kelli Curcillo Medical Student; Summer Drees Medical Student; John Najjar Medical Student; Tanvir Singh*

Kelli Curcillo<sup>1</sup> Summer Drees John Najjar Tanvir Singh Abstract Background: Preventing opioid overdose has been a major public health focus in Lucas County Ohio due

to the significant death toll devastating the county. One harm reduction strategy is the administration of naloxone a ? antagonist utilized to reverse opioid overdose. Educating and equipping laypersons or bystanders with naloxone and training empowers them to act in overdose emergencies to reverse opioid overdoses. The Lucas County Health Department has worked with Project Dawn (Deaths Avoided with Naloxone) to train community members and provide naloxone without cost. This study retrospectively analyzed the distribution of naloxone to laypersons in Lucas County. Methods: Project Dawn follows a train-the-trainer model in which the health department trains community members to provide naloxone distribution at sites throughout the county specifically targeting zip codes with the highest burden of opioid overdoses. These community members distribute naloxone without cost and educate their community on its use. During naloxone distribution clients receiving naloxone are given an anonymous survey which collects information on demographics and past naloxone use. This study analyzed these data focusing on the use of naloxone that was distributed from 2020 through 2022 under Project Dawn in Lucas County Ohio. Results: The data included a total of 11539 responses and a total of 20451 naloxone kits were distributed. Of these responses 7663 clients received naloxone for the first time and were trained on how to effectively recognize and respond to an overdose. Respondents who reported that this was not their first time receiving naloxone were 524 clients in 2020 1203 clients in 2021 and 1441 clients in 2022. Given these responses returning clients were asked how their last kit was used. 1813 or 8.9% of naloxone distributed were reportedly used for an overdose reversal. The total number of reported successful opioid overdose

reversals from these 3 years was 1699 or 8.3% of naloxone distributed were used to successfully reverse an overdose. Of the kits that were used on a person who was overdosing 93.7% of overdose reversal attempts resulted in survival 1.2% resulted in death and 5.1% did not report survival or death. The overall opioid overdose death toll in Lucas County from 2020 2021 and 2022 was 296 276 and 222 deaths respectively. Conclusion: In Lucas County Project Dawn has funded community efforts to train and distribute naloxone. Naloxone was largely distributed to first-time receivers of naloxone. Many returning laypersons who had previously received naloxone utilized this naloxone for opioid reversals. Of the kits that were used on an overdosing person a large amount resulted in survival showing the capability of bystanders when adequately trained and provided naloxone to reverse opioid overdoses

Saturday May 04

### **Outcomes in Women with Opioid-Addiction-Associated ED Visits in the United States**

*Waliah Ajisafe M.D.; yusra gimie BS; Uzoamaka Nwosu M.D.*

Introduction: Opioid addiction and prescription drug misuse is an epidemic in the United States that has gradually increased in the past two decades. In 2020 the Centers for Disease Control and Prevention (CDC) estimated the cost of opioid addiction to be nearly \$ 1.5 trillion and the trend is likely to increase in the coming years. This has become a major public health issue with a significant impact on morbidity and mortality. Aim: To determine the profile and outcome in women with opioid-addiction-associated ED visits in United



States. Methodology: We analyzed data on Opioid addiction Emergency Departments visits utilizing the Nationwide Emergency Department Sample (NEDS) database from January 2018 to December 2019. In a multivariate analysis we determined the association between opioid addictions and ED visits because of attempted suicides assaults and unintentional injuries. We also explore the influence of opioid addiction on health outcomes such as in-hospital mortality total hospital charges length of hospitalization and discharge disposition. We adjusted for covariates such as patient's age race/ethnicity insurance type income quartile hospital parameters (ownership region of hospital hospital urban-rural divide teaching hospital status) depression dementia and preexisting comorbidities (hypertension diabetes and obesity). We also adjusted for the mechanism of disease. Samples were weighed to generate nationally representative estimates. Result: There were 214056 opioid-addiction-associated ED visits during the study period. The median age was 39 years (Interquartile range: 30-52 years). Among these patients 73.0% were White 14.8% were Blacks and 8.5% were Hispanics. 21862 (10.2%) of these patients' ED visits were on account of unintentional injuries 3510 (1.6%) were due to attempted suicides and 17760 (0.8%) were on account of assaults. There were 1424 deaths. After adjusting for covariates opioid addiction remains a significant predictor of attempted suicides (OR=1.60 95% CI 1.47-1.74 p<0.01) unintentional injuries (OR=2.18 95% CI 1.96 - 2.42 p<0.01) and assaults (OR=1.88 95% CI 1.67 -2.13 p<0.01). It also remains a major predictor of in-hospital mortality (OR=2.91 95% CI 2.34-3.63 p<0.001). Conclusion: Opioid addiction remains a significant driver of adverse health outcomes

among women who presented to the ED in the United States.

Saturday May 04

### **Paying it forward: understanding Alumni engagement in a psychiatry residency training program**

*Nicole Bejany MD; Amber Khan; Ana Ozdoba M.D.*

Background: Alumni are frequently used in higher education as a resource for philanthropy and service. The examination of Alumni engagement in Universities has shown that a sense of connection and belonging is predictive of ongoing Alumni involvement in their alma mater.<sup>1</sup> Currently limited data exists on motivations for Alumni engagement within Residency programs. This remains a topic of interest as they are an invaluable resource in our program and others that are short staffed.<sup>2</sup> Alumni provide needed support to resident training at Montefiore serving as teachers supervisors and mentors. Studies that have examined the use of Alumni as mentors in healthcare training found increased mentee satisfaction with research involvement career opportunities work-force retention and improved work-life balance.<sup>3</sup> Our survey aims to evaluate the experience of Alumni mentors and educators in Montefiore Psychiatry residency program as well as assess what factors continue to encourage Alumni engagement in the residency training experience. Methods: This study is designed as a descriptive cross-sectional survey-based research study. The survey contained 56 questions on demographic information residency satisfaction current engagement in the Montefiore community and attitudes around their current educational roles as a mentor supervisor or teacher. Questions

were either multiple choice likert scale (0-5 very satisfied to not satisfied) or fill in the blank. The survey was emailed to 72 Alumni currently working as supervisors teachers and mentors. Faculty that are not program Alumni were excluded from the study. Results: A total of 47 Alumni responded to the survey. Respondents graduated between 1979 to 2022. All participants were age 30 and above with 47% identifying as women and 53% identifying as male. Respondents reported working in a private setting (30.43%) academia (36.96%) and public/community psychiatry (32.61%). Alumni reported satisfaction with their training and 97.67% would recommend the program to medical students. More than half of respondents reported staying connected to the program through faculty supervision for trainees mentoring residents and attending grand rounds. The prominent theme that emerged when asked about motivations for engagement was “paying it forward.” Additional drivers included expanding learning opportunities and nurturing leadership. In terms of barriers to engagement 75% of participants reported limited time. Conclusion: The desire to pay it forward was reported as an important motivation for alumni's continued engagement in their home psychiatry residency program particularly in roles that involve directly training the next generation of clinicians. Time restrictions were found to be a significant barrier. Strategies that offer meaningful but flexible and convenient teaching and mentoring experiences to alumni are needed to continue engaging this underutilized resource.

Saturday May 04

## **Predictors of pain and psychiatric comorbidities in bereaved family members of 9/11 victims**

*Alexis Cross D.O.; Stephen Cozza M.D.;  
Joscelyn Fisher Ph.D.; Jing Zhou; Christin Ogle  
Ph.D.*

There is a longstanding history of treating bodily pain and psychiatric comorbidities as separate entities. However there are bidirectional relationships between bodily pain and mental health disorders including depression post-traumatic stress disorder (PTSD) and anxiety. For instance recent studies have shown that psychiatric conditions share neural pathways with physical pain and individuals affected by pain are less likely to show improvement in their psychiatric conditions without treatment for their pain condition. Victims of the 9/11 terrorist attacks have an increased risk for developing physical and psychiatric conditions; thus examining how bodily pain is related to psychiatric conditions in this population would be informative. The present study classified family members of 9/11 victims according to whether they met threshold for PTSD Prolonged Grief Disorder (PGD) Major Depressive Disorder (MDD) Generalized Anxiety Disorder (GAD) and the presence of bodily pain. Three groups were identified by latent class analysis (LCA): Healthy (70.9%) high pain/high grief/low comorbidity (HP/HG/LC) (7.6%) and intermediate pain/high grief/high comorbidity (IP/HG/HC) (21.4%). Participants in the healthy group were least likely to meet criteria for a psychiatric condition and were least likely to report bodily pain. The HP/HG/LC group was most likely to report bodily pain (66.3%) but less likely to meet threshold for a psychiatric condition except PGD. Compared to the IP/HG/HC group this group was also more likely to include older males. The

IP/HG/HC group had a moderate probability of experiencing bodily pain (43.5%) high likelihood of meeting threshold for PGD and the highest likelihood of meeting threshold for PTSD MDD and GAD. Compared to the healthy group participants in this group were more likely to be younger (odds ratio (OR) = 0.92 95% CI [0.89 0.96]) less educated (OR=3.78 95% CI [1.40 10.23]) and include more bereaved parents (OR=4.88 95% CI [1.33 17.96]) compared to other relationship types. They also endorsed more negatively valenced post-9/11 life events (OR=0.85 95% CI [0.76 0.95]) and had less satisfaction with social support (OR=0.44 95% CI [0.32 0.62]). LCA with distal outcome models suggested that individuals in this group were more likely to meet threshold for alcohol use disorder ( $p < 0.05$ ) and functional impairment ( $p < 0.01$ ) compared to the healthy group. Compared to the HP/HG/LC this group was more likely to include younger bereaved mothers with higher levels of functional impairment. Results indicate how symptoms of bodily pain cluster with psychiatric conditions among family members of individuals who died during the 9/11 terrorist attacks. Greater understanding of the demographic and mental health correlates of bodily pain and psychiatric comorbidities in this population can facilitate the identification of groups that are at higher risk of developing comorbid pain and psychiatric disorders.

Saturday May 04

**PTSD Pain Platoons & Procedural Intervention. A novel approach for treating comorbid AUD in U.S. Military members: a case report & literature review**

*Alexis Cross D.O.; Zachary Brooks D.O.; Victoria Vuckovic MD resident; Simone Bernstein M.D.; Peyton Gaumer D.O.*

Stellate Ganglion Blocks (SGBs) have been used by pain and anesthesia physicians to treat pain conditions such as complex regional pain syndrome (CRPS) and phantom pain after amputation for nearly one hundred years. The psychiatric benefits of SGBs were discovered in the early 1990s when a patient with Post-Traumatic Stress Disorder (PTSD) and CRPS experienced an improvement in her PTSD symptoms and pain relief after receiving the treatment. Since then research into SGBs has exploded particularly in military settings with data showing dramatic improvements in symptomatology in service members with PTSD. The stellate ganglion is located bilaterally anterior to the C6 and C7 vertebrae and is responsible for providing sympathetic output to the brachial plexus and the inferior cardiac nerve. The premise of SGBs interrupts sympathetic output to the heart and brachial plexus leading to a decrease in the classical physiologic symptoms thought to be associated with PTSD. This improvement in symptoms seen in patients with PTSD has led to SGBs now also being studied in numerous subsequent psychiatric conditions ranging from anxiety disorders to personality disorders to psychotic spectrum disorders. PTSD and Alcohol use disorder (AUD) are among the most prevalent conditions in U.S. military veterans and often co-occur. Among active-duty military members and veterans the prevalence of PTSD is twice that of the civilian population with data showing that a diagnosis of PTSD increases the risk of developing AUD. Knowing this frequent overlap exists and having seen the positive effect of SGBs on PTSD it would be reasonable to propose using SGBs for co-occurring PTSD and AUD. In this poster we discuss the case of a 38-year-old active-duty male U.S. service member with psychiatric diagnoses of PTSD and AUD who demonstrated symptom improvement in his

trauma-related symptoms as well as a sustained period of sobriety after receiving a stellate ganglion block. Using this case as an example we will explore the current literature on the proposed mechanism and effectiveness of SGBs for PTSD the shared risk factors for PTSD and AUD and the existing literature for other off-label use for SGBs. Given the significant morbidity of PTSD and AUD in the military and veteran population it is essential to continue to evaluate additional possible treatment strategies. Stellate ganglion blocks are minimally invasive procedures with a low prevalence of adverse events and the ultrasound-guided technique can be widely taught to physicians without interventional pain training. If SGBs could treat both PTSD & AUD in an austere environment this could revolutionize the treatment of stress-related psychiatric disorders in a deployed setting.

Saturday May 04

### **Scoping review: Impact of the prolonged COVID-19 pandemic on child and adolescent mental health in the United States.**

*Nils Went M.D.; Xiao Xiong You M.D.*

Background The COVID-19 pandemic and associated societal infection control measures have massively changed the daily lives of individuals particularly children and adolescents in the United States. Their psychosocial environment has changed significantly; they experienced uncertainties fears and physical and social isolation negatively affecting their well-being and mental health. Methods: We performed a scoping review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines to explore the

impact on the various mental health outcomes over three years. Peer-reviewed articles from PubMed Web of Science medRxiv Web of Science Google Scholar and APA PsycINFO published between May 2020 and March 30 2023 were collected. Longitudinal or cross-sectional surveys studies of retrospective measures cohort panel and time series published in peer-reviewed journals using validated measures to assess the effect of the pandemic-related stressors on mental health symptomatology in samples of children and adolescents. The quality of the studies was evaluated using the NIH Study Quality Assessment Tool. Results: Based on the qualitative analysis of 134 included studies with 20265508 subjects aged from 5 to 24 years indicating a decreased psychological well-being and increased mental health problems such as increased distress and heightened depressive and anxiety symptoms during the pandemic. Children adolescents and young adults were at an elevated risk of experiencing psychological distress worry loneliness anxiety depression traumatic symptoms other psychological disorders suicide risk sleep disorders and impaired psychosocial functioning. Data suggest that the intensity of societal infection control measures and infection dynamics were positively associated with the severity of the psychopathology. The most recounted influencing factors were age gender previous mental and physical health self-regulation abilities parental mental health family functioning social support socio-economic status isolation and loneliness. Age gender and negative coping strategies were identified as risk factors for developing mental health problems. Social peer and family support and a positive coping style were associated with better outcomes. Conclusion: The findings of this scoping review highlight the

psychopathological consequences of the COVID-19 pandemic on children and adolescents in the United States and call for improved access to child and adolescent mental health care and prioritization for any future pandemic and natural crisis response.

Saturday May 04

### **Swiping Scrolling and Suicidality: Examining Social Media Addiction in the Context of Adolescent Psychiatric Emergencies**

*Ujval Pathak MD; James Burden MD; Gibson Anugwom MD; Britney Lambert M.D.*

Background: Social media use has proliferated among adolescents; studies show up to 95% of teens have access to a smartphone and use YouTube Instagram or TikTok daily. Overuse of these platforms has been associated with mental health risks in young individuals including depression anxiety disordered eating and suicidal ideation (SI) often driven by habitual checking and prolonged engagement through endless streams of algorithmically selected content. Concerningly evidence shows adolescents' maturing nucleus accumbens causes their reward processing to be more sensitive to this social reinforcement. Nevertheless research specifically on the problematic usage of TikTok and Instagram Reels in adolescents is limited thus a further investigation into their impact on youth mental health crises is warranted. Methods: We conducted a retrospective case series examining the clinical correlations of TikTok and Instagram Reels use with self-harm risk taking and addiction behaviors in 7 patients (aged 11-18) who underwent emergency psychiatric evaluation following social media-related mental health crises since January 2022 at a tertiary care center. Data on social media use

patterns clinical addiction and associated mental health decompensation were gathered through clinician interviews and detailed chart review. Results: All patients reported TikTok or Instagram Reels use consistent with a minimum of 1 addiction criterion including longer than intended use social consequences as a result of use withdrawal or distress when device access was restricted. 5/7 patients demonstrated at least 2 addiction criteria and 3/7 had ? 3 criteria. Of this sample 2/7 patients reported at least 7 hours of TikTok use daily. 86% of patients presented with SI with self-inflicted wounds and 71% ultimately required inpatient psychiatric stabilization for SI. Notably one patient was intubated and dialyzed in the ICU after an ingestion and cited TikTok as the trigger for his attempt. Two patients in this sample (aged 11 and 12) formed romantic relationships with adult men and a separate 12 year old patient was publishing videos of herself using sexual paraphernalia. Conclusion: In this case series we emphasize the predominance of mental health crises in adolescents in the context of problematic social media consumption of TikTok or Instagram Reels. Despite small sample size the severity of self-harm suicidality and patterns of addictive use correlated with goal-disoriented scrolling or inadequate safeguards against unmonitored contact with adults. Given the recent data demonstrating the negative effects of the addictive design features of these platforms efforts should be made to curb youth access to harmful content. To strike a balance between access to media and sensitivity towards a particularly vulnerable population a deeper inquiry is needed into whether these platforms cause or merely exacerbate mental illness.



Saturday May 04

### **Threshold Concepts in Psychiatry: A Qualitative Exploration of Medical Student Experiences**

*Aanchal Shah; William Butler M.D.*

Objective: Threshold knowledge is a theory of learning that involves deeper understanding of a subject. It has been described as an “aha!” moment that changes the way a learner views the subject and world around them. Psychiatry education has been identified as being likely to benefit from this approach. However research into this area is limited. To address this gap we identified and described threshold concepts experienced by medical students during behavioral medicine and psychiatry rotations to better apply threshold learning to the dynamic learning of psychiatry. Methods: 498 U.S. medical students were administered an electronic survey that included demographic and qualitative and free-response components. The responses were coded using a hierarchical nodal system to generate themes and relationships among responses. They were compared via Pearson coefficients for similarity and grouped by nodes to identify overlapping clinical concepts. Results: Most threshold concepts occurred in clinical settings with inpatient units being the most common (33%) followed by outpatient clinics (28%). Themes were identified across in three overarching categories: (1) the current state as learner (increased empathy and decreased judgement deeper understanding of mental health conditions and treatment mental illness as treatable and challenges to preconceived beliefs and bias) (2) the future state of provider (providing patient-centered care provider biases and patient injustice) and (3) the healthcare system (integrated care for comorbid conditions). Conclusions: This research provides a framework to

investigate threshold concepts more empirically from the learner perspective. Recommendations are discussed for incorporating threshold concepts into medical education.

Saturday May 04

### **Adolescent Opioid Stabilization and Treatment: Case Series and 13-Hospital System Stabilization and Treatment Protocol Standardization**

*Megan Mroczkowski M.D.*

Background: Despite national efforts to identify and treat substance use disorders drug overdose deaths remain stubbornly high in the United States. In 2019 there were 70630 overdose deaths across the United States and roughly 70% involved opioids.<sup>1</sup> Adolescent overdose deaths in the United States have increased in the past decade; there were 518 overdose deaths in 2010 compared to 954 in 2020 and deaths increased further to 1146 in 2021.<sup>3</sup> Despite recent improvements in identifying and treating substance use disorders opioid use and addiction still start at young ages. Furthermore nationwide surveys have reported at least 5%–6% of high school students have tried prescription opioids non-medically before graduating.<sup>4</sup> The American Academy of Pediatrics Committee on Substance Use and Prevention advocates for increasing access to medication-assisted treatment (MAT) for opioid use disorder in young people and for pediatricians to prescribe these medications when indicated.<sup>5</sup> Yet studies<sup>6</sup> show the majority of youth with opioid use disorder do not receive MAT and those who do are often delayed by at least six months from their diagnosis. Methods: A case series involving one patient who presented to a large urban academic

medical center on several occurrences will be described. J is a 16-year-old male from the Dominican Republic with severe opioid use disorder. He presented four times to the Pediatric Emergency Department showing signs of withdrawal and seeking treatment. No standardized guideline to stabilize and treat him existed. Results: While the hospital had an evidenced-based opioid stabilization protocol for adults none such existed for adolescents. We created an evidenced-based opioid stabilization protocol for adolescent patients in the 13-hospital enterprise. We outlined the rationale and process for using medications for opioid use disorder including buprenorphine clonidine methadone naltrexone and other adjuvant medications. We then formed an interdisciplinary enterprise-wide taskforce including child and adolescent psychiatry addiction psychiatry emergency medicine pediatrics pharmacy hospital administration nursing leadership and others. This taskforce formalized the stabilization protocol and implemented it throughout the enterprise. Conclusions: It is possible to create and standardize an evidenced-based opioid stabilization and treatment guideline for adolescents in a large hospital system. With this treatment guideline trainees in all involved disciplines will feel more comfortable using these medications in their clinical practice. The barriers to widespread implementation of similar guidelines include limited education buprenorphine waiver issues and stigma in treatment. We advocate for all hospitals to adopt similar guidelines.

Saturday May 04

**Assessing the impact of expanding health coverage on provider-level pharmacological and behavioral treatment provision for OUD**

*Marya Rana MPhil; Andres Roman Urrestarazu MD PhD MFPH*

Background: OUD affects 16 million people worldwide and 3 million in the US alone. It is a chronic relapsing disorder and the most effective treatment strategy is generally MAT involving a combination of pharmacotherapy and behavioral therapy. One potential means of addressing OUD is by expanding health care coverage for vulnerable populations; in the US this occurred through Medicaid expansion under the ACA. However MAT may not be implemented fully especially among low-income patients who are overwhelmingly enrolled in state-run Medicaid programs as the use of behavioral treatments depends on payment schemes and is inversely related to use of pharmacological therapies. This study assessed the effects of Medicaid expansion on provider-level pharmacological and behavioral treatment provision for OUD between 2010 and 2019. Methods: Data from the NSSATS-2010 NSSATS-2019 TEDS 2010 TEDS 2019 and US Census Bureau were used to run two mixed effects logistic regressions with random intercepts for state and year to assess the relationships between: facility characteristics; inpatient outpatient and residential treatment; demographic variables; and the provision of a) buprenorphine and b) special programs for people with co-occurring disorders. Results: Medicaid expansion status of a state was not significantly associated with the provision of pharmacological or behavioral treatment in facilities in that state. Instead factors associated with higher odds of offering buprenorphine in a facility were facility-level: Medicaid acceptance (OR: 1.364  $p < 0.001$ ) substance use treatment (SUT) (OR: 2.779  $p < 0.001$ ) detox provision (OR: 8.007  $p < 0.001$ ) inpatient hospital beds (OR: 1.241  $p < 0.001$ ) outpatient substance abuse (SA) services (OR: 1.284  $p < 0.001$ ); and state-level poverty

(OR: 1.082  $p < 0.01$ ). Factors associated with lower odds were facility-level: private non-profit ownership (OR: 0.604  $p < 0.001$ ) local government ownership (OR: 0.525  $p < 0.001$ ) and tribal government ownership (OR: 0.531  $p < 0.001$ ) as compared to private for-profit ownership; and state-level unemployment (OR: 0.923  $p < 0.01$ ). Factors associated with higher odds of offering special programs for co-occurring disorders were facility-level: Medicaid acceptance (OR: 1.688  $p < 0.001$ ) SUT (OR: 4.447  $p < 0.001$ ) detox (OR: 1.281  $p < 0.001$ ) inpatient hospital beds (OR: 1.132  $p < 0.001$ ) outpatient SA services (OR: 1.097  $p < 0.025$ ) and residential beds (OR: 1.124  $p < 0.001$ ). Ownership by federal (OR: 1.646  $p < 0.001$ ) and state (OR: 1.466  $p < 0.001$ ) governments were associated with higher odds while tribal government ownership was associated with lower odds (OR: 0.742  $p < 0.01$ ) as compared to private for-profit ownership. Conclusion: This study suggests that Medicaid expansion has not had a dramatic effect on the provider landscape for OUD treatment; instead economic and commercial factors continue to drive inequity in MAT provision. There is no funding to disclose for this study.

Saturday May 04

### **Association with pathological gambling and depression among Korean adults**

*Young-Eun Jung*

Objectives: Pathological gambling correlates with many adverse health measures including depression suicide divorce job loss and debt. However in South Korea studies on the prevalence of pathological gambling are limited. We assessed the pervasiveness of pathological gambling and its related factors. Methods: A quota sampling strategy was considered appropriate to ensure the

collection of representative age and gender data. The study sample comprised 500 community-dwelling adults aged 20–59 years living in Jeju South Korea. This study assessed participants for pathological/problem gambling using the Korean version of the Diagnostic Interview Schedule (K-DIS-IV). Endorsement of five DSM-IV criteria was considered to reflect pathological gambling and we considered endorsement of one to four criteria to indicate problem gambling. To obtain information regarding depression we administered the Patient Health Questionnaire-9 (PHQ-9). The demographics and frequency of depression were analyzed among pathological/problem gamblers in comparison with controls; both odds ratios and significance levels were calculated. Results: Lifetime prevalence rates of pathological gambling and problem gambling were 1.2%( $n=36$ ) and 7.2%( $n=6$ ) respectively. The total PHQ-9 score of the 42 participants with problem/pathological gambling was  $4.71 \pm 4.19$  and 17 (40.5%) participants who were problem/pathological gamblers had depression (PHQ-9  $\geq 5$ ). Multivariate analysis further showed a significant relation between being a man (odds ratio [OR] 2.62; 95% confidence interval [CI] 1.18-5.84;  $p=0.018$ ) and depression (OR 2.84; 95% CI 1.42-5.68;  $p < 0.001$ ) with pathological/problem gambling. Conclusions: Pathological/problem gambling is highly associated with depression suggesting that clinicians should carefully evaluate and treat depression in gamblers.

Saturday May 04

### **Characterizing alcohol and other substance use in PLWHA with medication non-adherence.**

*Adam Kolb; CARLA RASH*

Background/Objectives: Anti-retroviral (ART) therapy is effective in managing HIV; however only 27-80% are adherent far below the recommended 95% adherence rate required to achieve virological suppression. Persons using illicit substances are overrepresented among non-adherers. Unfortunately information on alcohol use in solely non-adherent HIV populations in the United States is currently lacking. This study aims to characterize alcohol use in a non-adherent sample. Methods: 101 male and female participants who were HIV+ and had elevated viral loads were recruited from clinics in the Northeast. This secondary data analysis categorized participants by their recent alcohol use as defined by any drinking within the past 30 days (versus none) and examined differences in participants' demographic characteristics illicit substance use and medication adherence. Results: Recent alcohol users had more days of cocaine use (M = 3.70 SD = 7.09) and marijuana use (M = 8.26 SD = 11.80) in the past month compared to those without recent alcohol use (cocaine [M = 0.65 SD = 2.94] marijuana [M = 2.96 SD = 8.36]). Recent alcohol use was negatively correlated with medication adherence based upon a scale where one represents no adherence and seven represents complete adherence  $r = -0.21$   $N = 101$   $p = 0.04$ . However the percentage of patients who reported they were adherent all or most of the time (a 6 to 7 on the previously mentioned scale) did not differ across alcohol status groups  $\chi^2(1) = 0.65$   $p = 0.42$ . A multiple regression model with alcohol cocaine and marijuana use within the past month as predictors of medication adherence was significant  $F(3, 96) = 6.53$   $p < .001$ . Among predictors only cocaine use was significantly associated with adherence. With each one day increase in use medication adherence scores decreased by  $-0.11$   $B = 0.38$  95% CI = -

0.16-0.05  $p < .001$ . Conclusions: Cocaine use was a better predictor of medication (non)adherence compared to alcohol. Clinically however alcohol may signal need for greater attention to cocaine use screening. Interventions focusing on reducing cocaine and secondarily alcohol use may help improve medication adherence in patients with elevated viral loads.

Saturday May 04

### **Disparities in Unintentional Drug and Alcohol Overdose Deaths Preceding and During the COVID-19 Pandemic**

*Judith Gutierrez MD; Julia Lopez M.D.; Daryl Shorter; Maria Mejia*

Background: According to the World Health Organization in 2019 about 600000 deaths were attributable to drug use. Despite extensive research a gap persists in the literature regarding the progression of unintentional drug and alcohol overdose under the impact of the COVID-19 pandemic. The objective of this study is to assess mortality rates resulting from accidental drug and alcohol overdoses both prior to and during the COVID-19 pandemic across different socio-demographic characteristics. Methods: This is a study of population-level death certificate data from the US Centers for Disease Control and Prevention Public WONDER dataset between 2018 and 2021. The deaths of interest were identified using the ICD-10 codes X40 to X45 X65 and Y15 corresponding to deaths due to unintentional drug overdose and alcohol poisoning among US residents. We analyzed the age-adjusted data by year age group race/ethnicity gender and urbanization. Joinpoint regression was used to determine mortality trends across time and t-tests were executed to determine differences in mortality prior to and during the

pandemic. Results: In this period there were 310303 deaths for which the underlying cause was non-intentional overdose. 300314 deaths were due to non-intentional drug overdose (DO) and 9989 deaths were due to alcohol overdose (AO). During this period there was no significant change in the AO deaths trend ( $p=0.08$ ) however DO-associated fatalities increased by 62% (with an Average Annual Percentage Change (AAPC) of 19.2  $p=0.024$ ). 91102 (29%) of the registered overdose deaths occurred in females while 219201 (71%) deaths occurred in males. The time trends according to gender show an increase in deaths during the pandemic of 52% (AAPC=17.1  $p=0.032$ ) and 65% (AAPC=19.9  $p=0.023$ ) in females and males respectively. Considering race/ethnicity the group of American Indians/Alaskan Natives exhibited the most significant rise in mortality (Death Rate (DR)=55.1) experiencing a substantial 95% (AAPC=27  $p=0.018$ ) increase in mortality rates. Subsequently the Black/African American population encountered a surge in overdose deaths with an increase of 115%. (DR=37.5) (AAPC=31.3  $p=0.012$ ). Similarly the White population encountered a 47% uptick in deaths featuring a DR of 35.8 which exhibited no notable statistically significant AAPC ( $p=0.07$ ). In relation to age two main groups experienced changes in DO deaths. Those between 15 and 19 years had a rise in deaths of 137% but the AAPC was not significant. Among 70-to-74-year-olds the death rate increased by 74% (AAPC=20.7  $p=0.002$ ). Most deaths occurred in the urban setting. Conclusion: There was a notable increase in non-intentional drug and alcohol overdose-related deaths during the COVID-19 pandemic especially among males minority groups and the elderly. This emphasizes the importance of addressing mental health and

substance misuse amidst health crises. This work was funded by the grant T32HP1003.

Saturday May 04

### **Effects of childhood trauma on negative emotionality in individuals with alcohol use disorder with and without post-traumatic stress disorder.**

*Tommy Gunawan; Vijay Ramchandani Ph.D.; Melanie Schwandt; Nancy Diazgranados M.D.; Eva Cullins*

Childhood trauma is a key risk factor in the etiology of alcohol use disorder (AUD) and post-traumatic stress disorder (PTSD) two highly comorbid psychiatric disorders. Childhood trauma also causes disruptions in negative emotionality (NE) which is dysregulated in both AUD and PTSD. Individuals with comorbid AUD and PTSD have poorer treatment and psychosocial outcomes compared to those with individual disorders. Thus understanding the effect of childhood trauma on negative emotionality among individuals with comorbid AUD and PTSD can help develop targeted treatments for these individuals. Individuals (N=790) who underwent the National Institute on Alcohol Abuse and Alcoholism Natural History Protocol were included in the analysis. Participants underwent the Structured Clinical Interview for the DSM-IV or DSM-5 and were grouped to either AUD only (AUD; n=610) or AUD with comorbid PTSD (CMB; n=180). Childhood trauma was captured with the childhood trauma questionnaire. NE outcomes included physiological measures (heart rate blood pressure) and psychological measures (depression anxiety perceived stress). Alcohol outcomes include the Alcohol Use Disorders Identification Test (AUDIT) Obsessive-Compulsive Drinking Scale



(OCDS) Lifetime Drinking History (LDH; total lifetime drinks heavy drinking years age of first drink) and Timeline Follow Back (TLFB; number of drinking days average drinks per day heavy drinking days). Analyses controlled for age sex and race. Psychological and physiological measures of NE were higher in the CMB group. Scores on the AUDIT OCDS LDH and TLFB were higher (age of first drink was lower) in the CMB group compared to the AUD group. The CMB group also endorsed more severe childhood trauma than the AUD groups. Greater childhood trauma severity increased perceived stress anxiety and depression and decreased age of first drink. Childhood trauma severity moderated the relationship between diagnosis and alcohol use outcomes. Across childhood trauma severity categories the comorbid group exhibited higher AUDIT scores and average drinks per day than the AUD group. For heavy drinking days the comorbid group only drank more than the AUD group at none/minimal and moderate/severe levels of childhood trauma. Within the comorbid group severe/extreme childhood trauma was associated with lower total lifetime drinks and average drinks per day than none/minimal childhood trauma. Individuals with comorbid AUD and PTSD exhibited worst NE outcomes compared to those with only AUD. Childhood trauma was also associated with poorer NE outcomes. Comorbid individuals also tend to exhibit poorer drinking outcomes. However childhood trauma severity moderated some of these effects. Taken together assessing childhood trauma in comorbid individuals is necessary to improve our understanding and treatment outcomes in this population.

Saturday May 04

## **Epigenetic changes in the GABBR1 promoter: CpG -4 as a possible sex-specific marker for alcohol-related changes in the reward system**

*Fiona Meyer-Bockenkamp*

Background: Alcohol Use Disorder (AUD) presents differently in males and females. This study focused on sex-specific epigenetic changes in the proximal GABBR1 promoter in individuals with AUD in blood and brain tissue to identify an accessible biomarker for alcohol associated changes in the reward system. Methods: Post mortem brain and blood was collected from 17 individuals with AUD (4 female 13 male 51.82 years mean age) and 31 healthy controls (10 female 20 male 55.84 years mean age). Brain tissue was collected from the anterior temporal cortex nucleus arcuatus nucleus accumbens hippocampus amygdala and mamillary bodies. We performed epigenetic profiling of the proximal promoter of the GABBR1 gene coding for GABA receptor B subunit 1 via Sanger Sequencing after applying touchdown PCR. Mean methylation between tissues for both sexes was assessed using a one-way ANOVA with Tukey's correction for multiple testing. Differences in single CpG positions between AUD and control group were assessed using a two-sided t-test for independent samples. We used mixed linear modeling (MLM) to detect additional factors influencing methylation levels. Results: This study shows sex-dependent effects of AUD on GABBR1-promoter methylation. CpG-4 showed consistent change over all investigated tissues. Looking at all tissues together CpG-4 was significantly hypomethylated in men with AUD ( $t(178.33) = 3.668$   $P < 0.001$ ) Most brain regions showed CpG -4 hypomethylation in male individuals with AUD. CpG -4 was significantly hypomethylated in the amygdala ( $t(32) =$

2.158 P = 0.039) and mammillary bodies (t (33) = 2.103 P = 0.043). CpG-4 was the only site that remained significant after correction for multiple measurements. Blood samples showed similar results without reaching significance. MLM revealed a superadditive effect of smoking on methylation levels in female individuals with AUD. Conclusion: CpG -4 should be evaluated further to elucidate its significance as an accessible peripheral biomarker that indicates central nervous changes in the reward system due to AUD. Furthermore we saw a sex-specific superadditive effect of smoking on GABBR1 methylation in female individuals with AUD potentially counteracting neuroprotective effects of sex-dependently regulated hormones such as Estradiol or neurosteroids.

Saturday May 04

### **Exploring Psychiatric Patients' Attitudes Toward Hallucinogenic and Non-Hallucinogenic Psilocybin for Mental Health Treatment**

*Araam Abboud; clay schiebre*

Background: While the therapeutic potential of psilocybin for psychiatric disorders has gathered increasing interest studies specifically exploring patients' attitudes toward its use remain limited. With new avenues opening for the exploration of hallucinogenic and non-hallucinogenic analogues there is a gap in understanding psychiatric patients' preferences regarding hallucinogenic versus non-hallucinogenic psilocybin. The distinction is important as the psychoactive effects of hallucinogenic psilocybin may not be suitable for all patients and non-hallucinogenic alternatives could offer a viable treatment option without the intense psychedelic experience. Our study addresses this gap by investigating

psychiatric patients' attitudes and acceptance of each form of therapy as well as comparing acceptance between them. Methods: A cross-sectional survey study was conducted among 96 psychiatric patients aged 18-65 years with a diagnosis of mood anxiety psychotic personality or substance use disorder at a community mental health center in Dayton Ohio. The survey assessed attitudes knowledge and acceptance of hallucinogenic and non-hallucinogenic psilocybin therapies. It collected demographic data mental health diagnoses and drug use history. Attitudes were measured on a 5-point Likert scale. Willingness to accept each therapy was assessed using a one-sided binomial proportion tests (null hypothesis 50%) and agreement with use to treat depression was compared between therapies using a paired t-test. Those with missing data were excluded from the analysis. Results: Of the participants 62.4% (58 of 93; 95% CI = 53.9% 100.0%; p = 0.009) were open to hallucinogenic psilocybin therapy and 60.4% (55 of 91; 95% CI = 51.8% 100.0%; p = 0.023) were open to non-hallucinogenic analogs each significantly greater than 50%. Participants were significantly differently interested in hallucinogenic mushrooms and non-hallucinogenic psilocybin-producing mushroom chemical analogues for the treatment of depression with greater agreement associated with the use of hallucinogenic psilocybin (D = 0.214 95% CI = 0.053 0.376; p = 0.010; n = 84). Discussion: This study reveals an openness among psychiatric patients to both hallucinogenic and non-hallucinogenic psilocybin therapies with a preference for the hallucinogenic form for the treatment of depression. This finding suggests patients may perceive the hallucinogenic effects as central to psilocybin's therapeutic potential. This

underscores the necessity to align clinical practices with evolving therapeutic approaches. Additionally exploring patient preferences and experiences can contribute to more personalized and effective treatment strategies in psychiatric care enhancing patient comfort adherence and therapeutic outcomes.

Saturday May 04

### **Fentanyl Use in a Pediatric Addiction Clinic**

*Emma Straton BA; Sivabalaji Kaliyamurthy M.D.*

Introduction: Adolescents are experiencing an increase in overdose fatalities at a higher rate than the overall population with many of these deaths being attributable to illicitly manufactured fentanyl use. An increasing number of pediatric patients are seeking treatment for opioid use disorder (OUD) driven by fentanyl use creating a need for clinicians who can identify and manage this condition. However little is known about the features of OUD secondary to fentanyl. An addiction clinic at a pediatric hospital was recently established to meet the unique needs of adolescents struggling with substance use disorders (SUDs) and behavioral addiction on an outpatient basis. We have been seeing more adolescents presenting voluntarily to seek help for their fentanyl use. Our understanding of the needs and challenges of adolescents using fentanyl is poor due to lack of data in this age group. We present data on adolescents collected at intake at the addiction clinic. Methods: Participants included 32 adolescents who presented to the pediatric addiction program between January 3 2023 and August 30 2023. The demographic and medical data including urine drug screens were extracted from the electronic medical record. Participants were

enrolled in an IRB-approved study examining the associations between screen time and substance use. Results: Among the 32 patients who presented for treatment 22 reported fentanyl use and met criteria for OUD (Mean of treatment=16.7±1.1 68% Hispanic/Latino/a/x 18% Black non-Hispanic/Latino/a/x (NH) 9% another race NH 5% White NH) The average age at which opioids were first used was 15.6±1.3 years and the average age at which any drug was first used was 13.3±1.8 years. All but one patient reported previous or current use of substances other than opioids (95% cannabis 91% nicotine 77% alcohol 50% psychedelic 27% over the counter (e.g. lean) and 14% stimulant). Urine drug screens were completed for 81% of the participants and 50% of drug screens were positive for fentanyl yet none were positive for oxycodone. Additionally 27% of patients were diagnosed with a depressive disorder 18% with an anxiety disorder and 18% with Attention-Deficit/Hyperactivity Disorder. All but four patients were started on medication for OUD (MOUD) with 14 patients started on Buprenorphine and 4 started on Naltrexone. Conclusion: In the 8-month study period 22 patients entered treatment at the addiction clinic for OUD due to fentanyl use. Here we present descriptive data on this understudied population of adolescents. More than one third of participants had another psychological diagnosis other than SUD. Most patients (82%) chose to start MOUD. This study is limited by the retrospective design and future studies should examine these constructs longitudinally along with treatment outcomes based on MOUD choice. This study was supported by the Lambert Grant at Children's National Hospital.

Saturday May 04

## **Importance of Maternal Methadone Split Dosing for Relapse Prevention in Pregnant Opioid Use Disordered Population.**

*Usman Riaz*

Background: Amid the opioid pandemic Methadone treatment has emerged as the standard of care to facilitate patients with reducing their use of narcotics. The inherent physical properties of the treatment promote a long-sustained release from tissues that extends its half-life and minimizes the need for street/illegal opioid use. In pregnant patient population physiological hormonal and metabolic changes during gestation decrease the serum concentration of methadone which can lead to relapse on opioids. Current dosing protocols do not address the elevated disposition of pregnant patients to developing early withdrawal symptoms that maladaptively affect mother and child. This calls to question the need for improved dosing protocols tailored towards meeting the needs of this vulnerable population. Method: An online search was performed on Medline/PubMed to find relevant studies on the safety and effectiveness of Methadone split dosing for maternal and fetal health. Articles were limited to those published in English from the 1990's when the opioid epidemic started in the US. After subjecting all the articles to the selection criteria 56 articles were reviewed. Results: Methadone is a potential opioid-replacement therapy for pregnant women. However there are decreased levels of albumin and A1-acid-glycoprotein during pregnancy result in an increase in the free fraction of methadone and decrease in the total concentration of methadone. Split dosing maintains higher plasma levels of Methadone improves the doctor patient relationship encourages greater compliance for urine toxicology and does not increase the

severity of neonatal abstinence syndrome (NAS). Twice-daily dosing at 12-hour intervals is considered optimal for sustained plasma levels and fewer withdrawal symptoms. Peak serum methadone levels (SML) more than twice the trough level (SML ratio >2:1) indicates rapid metabolism of Methadone during pregnancy. A trough level of 400 to 500 ng/ml after first dose and a peak level of twice the amount after 3 hrs (such as 800-1000 ng/ml) is considered ideal for blocking the effects of opioids and preventing the onset of withdrawal symptoms. Conclusion: The modified dosing protocol underlines the advantages of utilizing a split-dosing regimen to reduce the need for increased methadone dosing while enhancing healthier outcomes during the pregnancy and post-partum period. The single-dosing regimens are correlated with deleterious infant outcomes including neonatal abstinence symptoms as well as increased chances of pre-term birth smaller birthweight and maternal heart rate variability and longer duration of hospital stays. Studies investigating split dosing regimens have brought forth promising results that offer a potential method to prevent the emergence of opioid withdrawal symptoms during gestation. These studies provide a simplified method to support healthy maternal and fetal outcomes as patients continue forward on their path towards recovery.

Saturday May 04

## **Mechanisms of Immunosuppressant Induced Inhibition of Binge Alcohol Drinking**

*Thomas Beresford M.D.; Patrick Ronan*

We have found that the calcineurin mediated immunosuppressants cyclosporine and tacrolimus inhibit binge alcohol drinking in

mice. Further we have shown that this effect is mediated directly in brain as intracerebroventricular administration also significantly decreases drinking. As these immunosuppressants have severe systemic toxic effects our goal is to determine proximal mechanisms by which these immunosuppressants are working in order to develop effective treatments for alcohol use disorder (AUD) with fewer side effects. To this end we are employing genomic molecular transcriptomic metabolomic anatomic and behavioral approaches to explore the relationship between binge alcohol drinking and calcineurin mediated immunosuppressants in signaling and neuroinflammatory suppression. Since these immunosuppressants work through the inhibition of calcineurin the question arises of what role does brain calcineurin play? Calcineurin is a somewhat ubiquitous phosphatase involved in a wide range of signaling pathways – both in neurons and glia. One question is whether immunosuppressant effects are acting through neuronal signaling pathways regulating reward and stress/anxiety pathways or in glia mediating neuroinflammatory effects. We have developed genetic models using a floxed calcineurin line (C57BL/6-Ppp3r1tm1Stl/J) to decipher this by knocking out calcineurin in neurons and glia. Initial experiments determined that baseline drinking in this line both acute and chronic were not affected by CN knockout in this neuronal population. Conclusions 1) The immunosuppressant cyclosporine robustly inhibits ethanol consumption. 2) Conditional pan-brain knockout of calcineurin in CamKIIa expressing neurons has NO EFFECT on: A) Ethanol consumption in a chronic binge drinking model B) Cyclosporine (CsA) induced inhibition of ethanol consumption in a drinking in the dark (DID) model. 3)

Cyclosporine (CsA) inhibited the expression of a wide range of stress-induced neuroinflammatory markers in the CeA and PVN. A) Cytokines such as IL-2 IL-1? IL-6 TNF? B) Markers of glial activation: CD45 and Iba-1 C) Chemokine and chemoattractant molecules such as CCR2 and CCL2 D) Other inflammatory signaling molecules such as COX-2. E) Some of the largest effects were seen on IL-1? and IL-6 expression in both CeA and PVN and CD45 in PVN. 4) Together these results suggest that the immunosuppressant induced inhibition of ethanol consumption is likely mediated by glial signaling. 5) These findings suggest potential treatment targets for both AUD and PTSD.

Saturday May 04

### **Naloxone Prescribing for Opioid Overdose: Education Alone is Not Enough**

*Quang-Trung Dang D.O.; Joan Hyland; Barbara Gracious MD;DFAPA; Robyn Meadows*

Introduction In 2021 over 75% of all drug overdoses involved opioids. The Center for Disease Control (CDC) has promoted a set of evidence-based strategies to prevent opioid overdose including targeted naloxone intranasal spray distribution. Distribution programs work best when: 1) naloxone nasal spray is supplied to patient populations at high risk of overdose; 2) medical staff are properly educated and comfortable with naloxone distribution; and 3) those administering naloxone via nasal spray are educated on its effects. The aim of this project is to increase naloxone nasal spray prescription in patient populations at risk of opioid overdose following standards of care established by the CDC. Method A prospective quality improvement project to increase prescribing naloxone on discharge in



patients at risk of opioid overdose was performed at a Southeast community teaching hospital. The study was initially limited to patients admitted to the Behavioral Health Unit. Following CDC guidelines we provided a 1-hour education session to residents and attending physicians working on the behavioral health unit and also gave handouts with prescription guidelines and patient information. We tabulated pre-education data from 11/01/2022 to 01/31/2023 and compared it to post-education data from 04/01/2023 to 06/30/2023 to determine if the proportion of patients prescribed naloxone at discharge increased. Results There was an increase in the total proportion of patients prescribed naloxone at discharge; 2.44% (pre-education) to 11.54% (post-education). However a Fisher's Exact test did not show a significant difference between pre and post-education and proportion of patients prescribed naloxone. Conclusion As many other studies have shown education alone is not enough to change physician behavior. Multiple factors outside education contribute to discharge management such as time constraint and changes in primary providers. We have requested that our electronic medical record information technology team to add an automated prompt such as the one currently implemented for smoking cessation to lead to a greater proportion of at-risk patients receiving prescriptions for naloxone.

Saturday May 04

### **Quantifying Opioid Agonist Therapy during Hospitalization in Patients Who Inject Fentanyl**

*Amber Alberici; Joseph D'Orazio; Sam Stern*

Background: Hospitalized patients with opioid use disorder (OUD) particularly those

with chronic injection use of high-potency fentanyl have high rates of mortality and frequent patient-directed discharges (PDDs) and readmissions. Inadequate management of pain and withdrawal are often implicated in PDDs. Guidelines for inpatient management of OUD are not standardized and typically recommend medications for opioid use disorder (MOUD) including methadone or buprenorphine with adjunctive non-opioids. Limitations exist to this approach including methadone prescribing restrictions difficulty matching high dependency and patient hesitation to start MOUD. Our institution utilizes immediate-release (IR) and extended-release (ER) opioids as a treatment pathway to manage opioid withdrawal and facilitate transition to evidence-based MOUD. This study aimed to quantify and describe this management strategy. Methods: This retrospective single-center study of hospital admissions over a 6-month period from September 2021 to March 2022 included adults with active injection OUD and positive blood cultures. We created a database with details about demographics infections OUD management length of stay (LOS) discharge type readmissions and mortality. This is a subset of that database. Results: We identified 140 patients with 159 admissions with a median LOS of 11 days. Addiction Medicine was consulted in 67% of cases. Discharges were 47% planned 50% PDD and 3% in-hospital deaths. 82% of patients received ER opioids 80% IR opioids and 87% intravenous opioids. 45% transitioned to MOUD (37% buprenorphine 8% methadone). Overall patients received a median of 845 morphine milli-equivalents (MME)/day. Average MME for patients with PDD was 683 compared to 935 for patients with planned discharge. The amount of MMEs administered approximately correlated with patients' reported opioid use patterns which were

documented for 151/159 admissions. 21% reported using less than half a bundle of fentanyl or an estimated 1-7 bags per day; 28% reported 0.5-1 bundles or 8-14 bags per day; 28% reported 1-2 bundles or 15-28 bags per day; and 18% reported 3 or more bundles or 29 or more bags per day. These groups received a median of 525; 805; 950; and 1430 MMEs per day respectively. No observed overdoses occurred in the hospital for this cohort. Discussion: Our institution cares for a large population of patients with fentanyl dependence. Our approach guided by an Addiction Medicine consult service is to use both IR and ER opioids based on patients' use patterns to match their dependence and stabilize their withdrawal symptoms while facilitating transition to MOUD. As our data shows patients often require a high daily dose of opioids to manage dependence. We found this approach to be safe with no overdoses observed in the study cohort. In the era of high-potency synthetic opioids novel approaches are needed to improve outcomes in this high-risk group.

Saturday May 04

### **Safe & Efficacious Pharmacotherapy for Alcohol Use Disorder (AUD) in Alcohol-associated Liver Disease (ALD): A Systematic Review**

*AKANKSHA DADLANI MD MPH; Manesh Gopaldas; Akhil Shenoy M.D.*

Background: AUD is strongly associated with ALD and predicts a 4-fold increase in the rate of cirrhosis i. ALD has become the most common reason for liver transplants in America ii iii. Not surprisingly medical costs related to ALD are greater than all other hepatic pathologies combined iv. Despite the availability of three FDA-approved medications for AUD and the significant

morbidity and mortality of this modifiable etiology of liver disease fewer than 10% of patients ever receive medication-assisted treatment for AUDv. No systematic review exists reviewing concerns of safety and efficacy of pharmacotherapy in patients with liver disease. We sought to address this evidence gap. Methods: Three databases were searched: Scopus Embase and PubMed. The search terms included various terms for liver enzymes cirrhosis and AUD/ALD. Inclusion criteria were: English age 18+ Human Trials Year 2000 onwards sample size > 10 study duration > 12 weeks inclusion of safety measures (liver enzyme studies) inclusion of efficacy measures (time to relapse abstinence heavy drinking days. Once all studies were compiled 2174 records were found across all databases. Results were de-duplicated and then manually screened. Results: 22 randomized controlled trials met the inclusion criteria and seven medications were found that reported on liver function tests. GGT was the most studied liver enzyme (n=21). Naltrexone (NTX) was the most studied medication (n=9) revealing an overall reduction in mean GGT in 8 of 9 studies and improved abstinence by self-report compared to acamprosate and disulfiram. Acamprosate Topiramate and Baclofen had three studies each with significant reductions in GGT in the treatment arm. Nalmefene (n=2) Disulfiram (n=1) and Olanzapine (n=1) were also studied with GGT reductions. In all studies only one patient was discontinued in the treatment arm (Disulfiram) for possible drug-induced liver injury (DILI). Heavy drinking days (HDD) was the most common outcome measure found with great variation in reporting treatment outcomes. Conclusion: In all 22 studies liver enzyme levels either showed improvement or were found to be non-inferior on medication for AUD compared to placebo.

Further all 7 medications showed superiority to placebo in efficacy measures. Outcome measures that include liver enzymes may help in clarifying medication safety profile and efficacy of treatment outcomes.

Saturday May 04

### **The complexity of dose-dependent QTc prolongation and management for patients on methadone: a case study and literature review.**

*Jeuel Pana M.D.; Lisa Linde M.D.; Arslaan Arshed M.D.; M.S.; MHA*

Background: Evidence exists of methadone causing QTc prolongation in a dose-dependent manner that increases the risk of torsades de pointes and sudden death. We report on this increased risk for a hospital patient on methadone 250mg daily in sustained remission from heroin. In 2011 an interdisciplinary expert panel highlighted the cardiac effects of methadone indicating the need for cardiac safety plans for opioid treatment programs (OTPs). However it was unclear how to manage our patient who was complicated by chronic heart failure and comorbid untreated schizoaffective disorder in need of psychiatric stabilization with QTc-prolonging medication. The purpose of this literature review is to develop a consensus for managing QTc-prolonged hospitalized patients who are taking methadone.

Methods: We searched PUBMED and EBSCO databases using the key terms “methadone” “QTc prolongation” and “cardiac” filtered by 2013-2023 (158 results). Results: There were 6 total findings including 3 review articles 1 prospective study and 2 retrospective studies after using exclusion criteria. The consensus showed that in treatment settings EKGs should be performed when the methadone dose exceeds 120mg/day. In the hospital

setting they offer risk assessment tools and indicate daily QTc-interval monitoring for patients taking methadone and anti-arrhythmics using 12-lead EKGs. A QTc interval exceeding 500ms warrants correcting modifiable risk factors and reducing/discontinuing methadone. Also dual use of QTc prolonging medications necessitates a repeat EKG once the drug reaches steady state. The descriptive study highlighted the worst offenders for prolonging QTc in hospitalized cardiac patients being quetiapine and mirtazapine. A higher portion who suffered from a cardiovascular event in this study were patients with a lower functioning cardiac baseline. Arrhythmias in this setting occurred at a frequency of 55%. When serum methadone concentrations were obtained in OTP patients those who developed QTc-prolongation were found to have significantly higher serum (S)-methadone concentrations compared to patients without QTc-prolongation. This finding was supported by a retrospective study of levomethadone [an (R)-enantiomer used clinically in Europe that blocks less hERG potassium channels than the (S)-enantiomer] demonstrating ability to reverse and normalize QTc-prolongation in 90% of patients after they had switched from racemic methadone therapy. The development of an FDA-approved (R)-enantiomer in the US market may add to the management algorithm for cardiac safety in methadone patients. Conclusions: Recent summaries align with current guidelines for managing methadone and QTc prolongation with added caveats for hospitalized cardiovascular patients. The complexity of treating these patients may prove challenging and be case specific however we hope potential treatment options can improve flexibility to care.

Saturday May 04

### **Traumatic Experiences Among Hospitalized Individuals with Opioid Use Disorder: Insights from a Buprenorphine-Integrated Care Clinical Trial**

*Shelby Montgomery; Michelle Lofwall M.D.; Paul Nuzzo*

Introduction: Persons with opioid use disorder (OUD) often have a high lifetime prevalence of traumatic events. Additionally hospitalized patients with an OUD are frequently subjected to discrimination within the healthcare system. Some qualitative studies suggest that hospitalization for serious injection-related infections (SIRI) may be a traumatic experience for those with an OUD but further research is needed. The study purpose is to evaluate the prevalence and types of traumatic experiences among persons with an OUD who have been hospitalized with a SIRI enrolled in an ongoing randomized clinical trial. This study describes the participant's psychiatric and social determinants of health characteristics. Methods: The Outpatient Parenteral Antimicrobial Therapy Plus Buprenorphine for Opioid Use Disorder and Serious Injection-related Infections study (NCT04677114) is a randomized 2-arm clinical trial. Participants are enrolled during a hospitalization for SIRI and randomized 1:1 to either discharge once medically stable to an integrated outpatient care model combining buprenorphine and OPAT or to treatment as usual. Preliminary responses to a set of validated questionnaires including the Brief Trauma Questionnaire Mini International Neuropsychiatric Interview from the DSM-5 (MINI) and Columbia Suicide Severity Rating Scale were examined at baseline; descriptive statistics were calculated. The Primary Care Posttraumatic Stress Disorder screen for DSM-5 (PC-PTSD-5) Addiction Severity Index-

Lite (ASI) Primary Health Questionnaire and General Anxiety Disorders screen were examined at baseline and every 4 weeks thereafter. Results: The first 55 participants randomized are included herein. Trauma screening assessments showed 31 (56%) experienced ≥3 traumatic events. Having a life-threatening illness (n=41 75%) and witnessing or fearing death/serious injury of another (n=40 73%) were most reported. Seventeen persons (31%) screened positive for probable PTSD and 5 (9%) met PTSD criteria per the MINI at baseline. The top three non-medical traumas mentioned in the description section of the PC-PTSD-5 were witnessing an overdose (n=32) being in a serious car accident (n=19) and experiencing gun violence (n=8). Of 8 (15%) participants who attempted suicide overdose [7 (88%)] was the method. Of 21 (38%) participants endorsing passive suicidal ideation 8 (38%) reported it was due to pain related to OUD. The medical and drug-use ASI composite scores decreased over time in both groups. Conclusions: Persons with OUD hospitalized for SIRI experienced multiple traumatic events including fearing for their life due to an illness or witnessing an overdose. Importantly despite the high frequency of trauma observed in the study sample most participants are not meeting diagnostic criteria for PTSD suggesting resilience. Greater understanding of the complexity of this population's life experiences may reduce stigma and improve outcomes.

Saturday May 04

### **UFMG-VAC-V4N2 anti-cocaine vaccine safety and immune profile in marmosets.**

*Brian Sabato; Nicole Font dos Santos MD; Raissa Lima; Frederico Garcia*

Background: Cocaine use disorder is a public health issue that affects countries worldwide; there is no specific treatment for them to this day. The development of vaccines as an adjuvant to addiction treatment is a possible strategy. The UFMG-VAC- V4N2 is a candidate using calixarenes as carriers. This study assessed the safety and immunogenicity of this new formulation. Methods: Three females and two males of *Callithrix penicillata* marmosets received 5 UFMG-VAC-V4N2 intramuscular injections (days 0, 7, 12, 18, 28, 35, 42, and 49) and food intake, weight, and body temperature were monitored during the experiment period that consisted of 60 days when the animals were submitted to euthanasia. Blood samples from one week prior and days 48 and 60 were analyzed with biochemical tests. Enzyme-linked immunosorbent assay (ELISA) and competitive assays to evaluate safety and immune response induction. Results: Vaccinated marmosets showed increased levels of anti-cocaine IgG antibodies from baseline (day 0) until the end of the study with a maximum peak on day 21. The result of the competitive ELISA suggests that anti-cocaine IgG antibodies are specific and showed high avidity for free cocaine in solution. None of the animals treated with the UFMG-VAC-V4N2 formulation presented severe adverse reactions; there were no deaths and no alterations in physiological parameters including renal and hepatic function biomarkers. As for histopathology the analysis showed fibrin necrotic panniculitis and myositis with mild fibrosis at the injection site. Conclusion: The UFMG-VAC-V4N2 vaccine induced the production of high titles of anti-cocaine antibodies confirming the immunogenicity potential of the formulation in non-human primates with mild local adverse effects and no influence on the general health and clinical parameters in the

vaccinated animals. Therefore the UFMG-VAC-V4N2 vaccine presented itself as a safe compound with immune response properties in marmosets.

Saturday May 04

### **Xylazine abuse resulting in limb amputation: A case report and literature review**

*Shashi Prabha M.D.; Narpinder Malhi M.D.*

INTRODUCTION: Xylazine also known as 'tranq' is a non-opioid veterinary tranquilizer not approved for human use. It has been linked to an increasing number of overdose deaths nationwide in the evolving drug addiction and overdose crisis. Xylazine present overdose deaths has risen from 0.36% in 2015 to 6.7% in 2020 in 10 jurisdictions of the US representing all four US Census Regions. Philadelphia has the highest magnitude. From 2015 to 2020 the percentage of all drug overdose deaths involving xylazine increased from 2% to 26% in Pennsylvania. Xylazine was involved in 19% of all drug overdose deaths in Maryland in 2021 and 10% in Connecticut in 2020. We present a case of chronic Xylazine use in an adult male leading to chronic ulcer resulting in forearm amputation. CASE REPORT: Patient was a 32-year-old male with no significant past medical history longstanding IV fentanyl and xylazine use who presented with chronic left hand wound. Vitals stable. Labs : Anemia with hemoglobin 6.9 potassium 3.4 normal lactate. X-ray of left hand indicated osteomyelitis up to proximal ulna and radius. Hand surgery orthopedic surgery and vascular and general surgery consulted. Started on broad-spectrum antibiotic with vancomycin and cefepime which was changed to ceftriaxone vancomycin and metronidazole based on



blood cultures which grew MRSA. Pain treated with Dilaudid PCA. He left AMA after 2 days of initial admission got readmitted the next day and underwent left mid arm forearm amputation. He left AMA again without completing antibiotic treatment and after care. DISCUSSION: Xylazine is a non-opiate sedative analgesic and muscle relaxant authorized in the United States only for veterinary use. It is not a controlled substance in the United States often added to illicit opioids including fentanyl to lengthen its euphoric effects. Xylazine is long noted in the street opioid supply of Puerto Rico before appearing more recently in Philadelphia. The highest prevalence observed in Philadelphia (25.8% of deaths) followed by Maryland (19.3%) and Connecticut (10.2%). In xylazine-present overdoses Fentanyl (98.4%) is the most commonly co-occurring drug followed by Cocaine (45.3%) benzodiazepines (28.4%) heroin (23.3%) and alcohol (19.7%). Chronic intravenous use is associated in skin ulcers abscesses tissue necrosis which may result in amputation. Overdoses associated with xylazine may be more difficult to identify and treat in clinical settings as they often appear similar to opioid overdoses may not be included in routine drug screening tests and naloxone does not reverse its effects. As many jurisdictions are currently not routinely testing for xylazine in overdose fatalities the magnitude of its epidemiological significance may not be fully understood at present. CONCLUSION: It is emerging as a drug addiction and overdose crises difficult to identify and treat in clinical setting.

Saturday May 04

**“I still feel off”: Challenges in Discerning and Treating Comorbid Anxiety Disorders in Substance Use Disorder Diagnosis**

*Lucia Boettner M.D.; Mark Sinclair M.D.*

Mr. RV a 59-year-old male with a 20-year history of opioid use disorder (OUD) was admitted in May 2021 following an opioid overdose. Prior OUD treatment had been primarily managed through methadone maintenance with recurrent relapses. About four months prior to this admission he had switched to buprenorphine/naloxone sublingual film and been weaned off the medication in a supervised facility about a month before this event. After experiencing lingering withdrawal symptoms he reported taking two sniffs of heroin (with potential fentanyl involvement) which resulted in loss of consciousness and respiratory depression requiring administration of naloxone by his teenage son. While inpatient in May 2021 Mr. RV was reintroduced to buprenorphine/naloxone treatment initially at a dose of 16 mg; 8-2 mg in the morning 4-1 mg in the afternoon and 4-1 mg in the evening. However upon discharge he continued to experience symptoms of opioid withdrawal often necessitating an early afternoon dose. Subsequently in outpatient visit his medication regimen was modified to buprenorphine/naloxone 20 mg; 8-2 mg in the morning and afternoon and 4-1 mg in the evening resulting in symptom improvement. In May 2023 after two years of stability on buprenorphine/naloxone at a daily dose of 20 mg Mr. RV was initiated on Long-acting Injectable (LAI) buprenorphine receiving 300 mg subcutaneously. While reporting increased fatigue since the start of LAI buprenorphine he noted reduced cravings and withdrawal symptoms improved sleep and the ability to better manage daily activities. During follow-up Mr. RV reported ongoing satisfaction with LAI buprenorphine but he reported increased cravings for heroin toward the end of the monthly cycle occasionally requiring a 4-1 mg

buprenorphine/naloxone sublingual film as an oral supplement. Additionally he presented with symptoms consistent with panic disorder including tachycardia diaphoresis and a sense of impending doom exacerbated by work-related stress and the death of a close friend around the time of starting the LAI. Administering LAI buprenorphine every three weeks instead of monthly was considered. Given his reluctance to take psychiatric medications and engage in psychotherapy after years of addressing his substance use disorder only Mr. RV agreed to initially try hydroxyzine for recurrent episodes of panic attacks. This case highlights the complexity (1)(2) of treating OUD and comorbid anxiety disorders. Mr. RV's experience raises questions about self-medication (3) and the unmasking of anxiety with long-term LAI buprenorphine. Further research is warranted to explore the long-term outcomes and optimal dosing intervals for LAI buprenorphine in treating OUD with comorbid anxiety disorders.

Saturday May 04

### **A Brief Literature Review on Experiential Avoidance in Substance Use Treatment Behavioral Addictions and Treatment Implications**

*Laurel Spack M.D.; Nicole Lanouette*

Background: Addiction is now viewed as a multifactorial disease and much of the research on substance use disorders (SUD) has explored the role of negative reinforcement in maintaining the resultant maladaptive behaviors. This creates an interesting question: if one seeks to avoid experiences with substance use are they also partaking in other maladaptive behaviors? Experiential Avoidance (EA) describes “the unwillingness to remain in contact with

distressing internal experiences”<sup>1</sup>. EA has been studied in SUDs but researchers are now exploring its relationship to “behavioral addictions” including compulsive sexual behaviors (CSB) disordered eating and gambling disorders. Methods: To examine the association between substance use treatment and experiential avoidance and extend this association to behavioral addictions a brief literature review was conducted through PubMed utilizing search terms (Experiential Avoidance) AND (Substance Use Disorder) yielding 59 articles. Studies were selected for their investigation of 1- the relationship between EA SUD and BAs in residential treatment settings or 2- how therapies aimed at reducing EA changed outcomes in SUD treatment. The result: 3 studies met the first criteria and 3 met the second. Results: Criteria 1- Two studies in residential treatment facilities examined the relationship between men's EA levels bulimic symptoms<sup>2</sup> and Compulsive Sexual Behaviors (CSBs)<sup>3</sup>. Both supported a correlation between increased EA with Increased drug/alcohol use but each study also found a correlation between EA and Bulimic symptoms or CSBs. The third study discussed the relationship between PTSD symptoms EA and CSBs in SUD treatment and found that EA was positively correlated to all 3 other measures and path analysis supported a relationship from PTSD symptoms to EA and from EA to CSB thus supporting a model of CSB and SUD being negatively reinforced<sup>4</sup>. Criteria 2- One study observed effects on AUD in a PTSD population and found that Acceptance and Commitment Therapy reduced EA PTSD symptoms alcohol related outcomes and depressive symptoms<sup>5</sup>. Another study used Distress Tolerance Therapy for treatment resistant Nicotine UD patients and the treatment group was significantly more likely

to remain abstinent and return to treatment after relapses than the control group<sup>6</sup>. The final study observed that DBT in residential AUD treatment reduced “addictive behaviors” and found treatment correlated with reduced EA as well as reduced gambling CSB compulsive buying and disordered eating<sup>7</sup>. Discussion: A brief review of the literature suggests that screening for EA in SUD treatment may help to identify patients at higher risk of “behavioral addictions” and targeting EA in treatment reduces both substance use and disordered behaviors. Further study is merited regarding the efficacy of treatment modalities and utility in incorporating EA targeting therapies as standard practice in treatment of SUDs.

Saturday May 04

### **Adverse Childhood Experiences and Adulthood Psychological Distress in the LGBTQIA+ Population**

*Brody Montoya D.O.; Victoria Teague D.O.; Dillon Rutland M.D.*

Introduction The LGBTQIA+ community has been shown to experience a higher number of Adverse Childhood Experiences (ACEs) and a higher burden of psychological distress in adulthood than the general population. ACE scores are one of many factors that are positively correlated with the severity of psychological distress in adulthood. However the effects of ACE scores may be decreased through social and environmental interventions including Positive Childhood Experiences (PCEs) and Adult Protective Factors (APFs). In communities with lower PCEs and APFs such as the LGBTQIA+ community ACEs may have a greater contribution to adulthood psychological distress. This cross-sectional study observes the correlation of ACEs and adulthood

psychological distress in the LGBTQIA+ and non-LGBTQIA+ populations. Methods Data was from the 2020 WA Behavioral Risk Factor Surveillance System (BRFSS). Inclusion in the LGBTQIA+ group was based on the following responses: gay lesbian bisexual other sexual orientation male to female transgender female to male transgender and gender non-conforming. A modified ACE score maximum = 8 and Kessler Psychological Distress Scale (K6+) score maximum = 24 was calculated from respondent’s answers. Data was analyzed in both groups using a simple linear regression to predict a K6+ score based on an ACE score with the standardized regression coefficient (b) reported with a 95% Confidence Interval. Results This study analyzed 12902 responses with an average age of 53.9 years old (SD = 19.4) 52.8% responses from females and the following race/ethnicity profile: 78.2% White 2.2% Black 7.3% Hispanic and 12.3% Other Race. From the data 5.5% of respondents identified as LGBTQIA+. For average ACE scores the LGBTQIA+ and non-LGBTQIA+ populations reported scores of 2.78 (SD = 2.33) and 1.57 (SD = 1.90) respectively. For average K6+ scores the LGBTQIA+ and non-LGBTQIA+ populations reported scores of 5.47 (SD = 5.24) and 2.60 (SD = 3.56) respectively. A simple linear regression was calculated from the LGBTQIA+ group to predict K6+ score based on ACE score  $b = .43 (.39 .47) t(629) = 9.54 p < .001$ . A significant regression equation was found ( $F(1 629) = p < .001$  with an  $R^2$  of .183. Additionally a simple linear regression was calculated from the non-LGBTQIA+ group to predict K6+ score based on ACE score  $b = .37 (.36 .38) t(10036) = 35.34 p < .001$ . A significant regression equation was found ( $F(1 10036) = 1555.765 p < .001$  with an  $R^2$  of .134. Conclusions As expected ACEs and psychological distress were greater in the LGBTQIA+ group than the

non-LGBTQIA+ group. Also the LGBTQIA+ group's ACE scores showed both a moderately stronger and more positive correlation to K6+ scores than in the non-LGBTQIA+ group highlighting a possibly greater effect of ACEs on psychological distress in LGBTQIA+ adults. These results suggest a need for improving implementation strategies for PCEs and APFs that focus on LGBTQIA+ individuals.

Saturday May 04

### **Ashwagandha: An Ancient Plant To Treat Modern Drug Addiction**

*Lorena Carvajal; Miguel Velasco-Santos; ALEJANDRO IÑARRA*

Background: The *Withania somnifera* plant's extract is known as Ashwagandha (ASW). Although it is frequently utilized in ayurvedic medicine there is little discussion of it in the literature of contemporary mainstream medicine. However clinical data from large high quality trials suggest a potential for ASW to have anti-inflammatory neuroprotective adaptogenic memory-enhancing hematopoietic sleep-inducing and anxiolytic properties. Taking this into consideration we aim to review if these properties might be useful in reversing addiction and or reducing relapse in drug dependent patients.

Methods: From inception to August 2023 we conducted a literature search on Pubmed/Medline Embase and Google Scholar databases on studies focusing on ASW's use in adult drug dependent patients using the keywords Ashwagandha "Withania somnifera" "substance use" and "drug addiction". We selected meta-analysis chart reviews clinical trials and randomized controlled trials. Secondary literature and articles unrelated to the topic of the review were excluded. Results: Our search yields

that a small number of studies have specifically examined the use of ASW in drug addiction models. ASW is classified as an adaptogen plant which results in enhanced stress tolerance in animals as well as human beings. It has been reported that ASW inhibits the stimulation of dopamine transmission and neuron circulation in the nucleus accumbens shell and ventral tegmental region of dopaminergic neurons thereby preventing the alteration of behavior and biochemical changes brought on by morphine and ethanol's electrochemical and neurochemical modifications. Another study highlighted ASW's anti-addictive potential due to modulation of nicotine cholinergic receptor. Furthermore it has been observed that Ashwagandha and a number of other plants have synergistic effects when used to create nicotine-free anti-smoking formulations. Lastly according to a different study GABAergic and serotonergic system modulation by ASW reduces withdrawal symptoms and ethanol consumption in those who have a history of chronic alcohol exposure. Conclusions: ASW represents a promising source for drug addiction treatment due to its adaptogenic properties. Further high quality investigation specifically focused on addiction is necessary before clinical recommendations on ASW can be confidently made."

Saturday May 04

### **Autonomous Sensory Meridian Response: Literature review for potential therapeutic benefits risk of dependence and side effects such as misophonia**

*Oleksandra Petryna M.D.; Hussain Abdullah*

Autonomous Sensory Meridian Response: Literature review for potential therapeutic benefits risk of dependence and side effects

such as misophonia. Authors: Oleksandra Petryna MD Hussain Abdullah MD

Autonomous Sensory Meridian Response (ASMR) is a temporary sensory response to auditory and visual cues which has been compared to pleasant paresthesia auditory-tactile synesthesia and mild euphoria one might experience from drug use (1). Cues include low pitch or soft sounds repetitive sounds or repetitive motions watching mundane tasks and watching soft tactile stimulation (1. 2). Currently there are over 25 million videos on YouTube being used to stimulate ASMR. Some studies suggest that ASMR reduces stress and can increase mood (2 3). We performed a literature search through Pubmed using terminologies ASMR ASMR+therapeutic effects ASMR+addiction and ASMR+side effects. We also present a clinical scenario of a patient experiencing persistent heightened sensations to sounds (misophonia) and cravings after discontinuation of audio/video stimulating ASMR content. The literature shows mixed findings of ASMR impact on depressed mood states with studies demonstrating positive effects particularly among those who are sensitive to ASMR (3). ASMR is also proposed to have a positive impact on cognitive functioning such as attention and decision making tasks (4). Literature reports association of ASMR with negative experiences such as misophonia (5). To our knowledge there are no studies reporting dependence and discontinuation symptoms linked to ASMR suggesting addiction risk. We encountered a challenging case in the outpatient setting of an 18 years old male with a history of Autism Spectrum Disorder (ASD) who was using ASMR with progressively increased daily use and significant impact on psychosocial domains of his life. Following initial euphoria the patient eventually started to experience heightened sensitivity to

certain sounds and at times tactile stimulation causing significant distress. Patient has responded to the ASMR related triggers impulsively with verbal outbursts and self injurious behaviors leading to depressed mood hopelessness with passive suicidal ideation (SI) and inpatient psychiatric hospitalizations. Patient had insignificant medical and neurological workup including urine drug screen. Patient had failed trials of multiple selective serotonin reuptake inhibitors and second generation antipsychotics and was treated in the clinic with off label use of Naltrexone to target cravings to use ASMR supportive therapy and education and Gabapentin to address potential somatic discontinuation symptoms such as anxiety irritability and neuropathic pain. Overall the patient reported diminished cravings and intensity of misophonia related anxious and depressed mood symptoms. Literature is limited on ASMR and potential negative effects of ASMR stimulating content warranting further research.

Saturday May 04

### **Beyond the symptoms: A systematic review of acceptance and commitment therapy in psychosis.**

*Miguel Velasco-Santos; Beatriz Orgaz Álvarez; Carlos Delicado Gascón; Paula Ibáñez*

Background: Acceptance and Commitment Therapy aims for patients to act according to their life values striving to prevent behavioral avoidance from interfering with this objective. It has demonstrated effectiveness in various disorders although the evidence regarding its application to psychosis remains inconclusive. Two meta-analyses show symptomatic reduction whereas the most recent one contradicts this finding. However the main purpose of this therapy is not



symptom reduction but rather to encourage individuals to act in accordance with their personal values. Therefore parameters such as quality of life could offer a more comprehensive way to assess therapy outcomes which justifies this study.

**Methods:** The systematic review was conducted following the PRISMA statement. Available randomized clinical trials of Acceptance and Commitment Therapy in psychosis were compared against any other intervention or treatment as usual. The primary objective was the measurement of parameters related to quality of life while secondary objectives included quantification of psychotic or anxiety-depressive symptomatology.

**Results:** In February 2023 a total of 106 articles were identified in MEDLINE 229 articles in SCOPUS and 184 articles in Web of Science. Subsequently 173 articles were removed due to duplication followed by an initial screening process that eliminated 286 articles with an additional 52 articles excluded during a secondary screening including 8 articles selected for qualitative analysis. Among the selected studies 5 demonstrated improvement in one or more parameters related to quality of life while inconsistencies were noted with other related parameters in 3 of them. Furthermore 2 studies reported a decrease in negative symptomatology and 2 studies showed a reduction in distress associated with psychotic symptoms. Significant risk of bias was observed in three trials.

**Conclusions:** Substantial heterogeneity exists among the populations in each study the measurement instruments employed the control groups and the interventions performed all of which complicate drawing definitive conclusions. Therefore more clinical trials are required where functionality and quality of life are quantified as the main objectives as well as the identification of subgroups that would

benefit the most from the intervention. There are no conflicts of interest to disclose in relation to this research study.

Saturday May 04

**Caplyta/ Lumateperone : A standalone or adjuvant therapy for depressive episodes in Bipolar depression and MDD. A systematic review**

*Moo Jin Oh Resident Physician PGY 3; Rashmi Subhedar*

**Introduction:** Major depressive disorder affects millions of people every year and one third fail to respond to a single mode of treatment. Treatment resistant depression is the failure to respond to at least two antidepressant drugs when given in adequate dose and duration. Lumateperone/Caplyta is an atypical antipsychotic which acts as a receptor antagonist of 5-HT<sub>2A</sub> receptor and antagonizes several dopamine receptors (D<sub>1</sub> D<sub>2</sub> and D<sub>4</sub>) with lower affinity. It has moderate serotonin transporter reuptake inhibition. This review studies the safety and efficacy of this drug for treatment of depressive disorders as monotherapy or adjuvant to other drugs.

**Methods:** After searching clinicaltrials.gov and PubMed using the search terms (lumateperone) AND (major depressive disorder) a total of 19 studies were obtained. After removal of duplicates and searching for relevance of content 2 RCTs and 1 systematic review were included for full text screening. Two RCTs with patients suffering from bipolar I or II disorders with major depressive episodes were reviewed. One of the RCTs studied 42 mg of lumateperone as monotherapy and the other studied 28 mg/day and 42 mg/day as an adjuvant to Li or valproate for 6 weeks. MADRS (Montgomery Asberg Depression rating scale) was the primary outcome

measure and Clinical Global Impressions Scale-Bipolar Version severity scale (CGI-BP-S) was the secondary outcome. Adverse effects were studied throughout the study. Results: One of the trial studying 42 mg caplyta daily as monotherapy showed significant improvement from baseline in MADRS score compared with placebo (least squares mean difference compared with placebo -4.6 points; effect size=-0.56) and CGI-BP-S total score (least squares mean difference compared with placebo -0.9; effect size=-0.46). The only treatment related side effects which were considerably more than the placebo group were somnolence and nausea. The extrapyramidal symptom side effects were similar to placebo group. Second study which studied 28mg/day or 42 mg/ day of lumateperone or matching placebo as an adjuvant to valproate or Lithium also showed a decrease in MADRS scores. The Least Squares Mean (Standard Error) in 28 mg 42 mg and placebo group were -16.2(0.79) -16.9(.81) and -14.5(.79) respectively. The Least Squares Mean (Standard Error) for CGI-BP-S for the 3 groups were -1.7(0.09) -1.8(0.10) -1.5(0.09) respectively. The frequency of somnolence dizziness and nausea was more in the drug group than placebo. The systematic review and metaanalysis by Yildiz et al showed lumateperone to be more efficacious than placebo in treating depressive symptoms. Conclusion: For adult patients with bipolar I or II depression Lumateperone shows promising results as a monotherapy as well as an adjuvant. Although there are some ongoing trials on the efficacy and safety of Lumateperone as an adjuvant therapy to other serotonergic antidepressant medications the results are still awaited.

Saturday May 04

### **Early vs. Late onset schizophrenia truly distinct disorders or due to screening deficiencies? A case report and review of the literature.**

*Sakirat Akadri M.D.; Zachary Brooks D.O.; Prabhsimran Batra MD Psychiatry PGY-3; Alexis Mango USA AD;D.O.; Hannah Russin M.D.*

Schizophrenia is a mental disorder characterized by positive symptoms such as delusions hallucinations and disorganization alongside negative symptoms such as avolition and amotivation. Schizophrenia affects approximately 24 million individuals globally and ranks third among all mental disorders in disability-adjusted life years after only depressive and anxiety disorders. While the condition typically emerges in late adolescence or early adulthood it can also manifest earlier known as early-onset schizophrenia (EOS) or later known as late-onset schizophrenia (LOS). Those diagnosed with LOS are more likely to be women exhibit milder positive symptoms and display less cognitive impairment as compared to EOS. These distinct clinical traits and the belief that LOS leads to a better prognosis caused some experts to debate whether LOS merits recognition as a condition separate from schizophrenia and EOS. However a review of existing literature highlights inconsistencies in clinical disparities among EOS schizophrenia and LOS raising the question: Is LOS truly a separate entity or another point on the continuum of neurodevelopmental conditions? Advancements in genomic research have demonstrated that the neurodevelopmental continuum likely encompasses a broader array of disorders beyond those currently categorized as neurodevelopmental disorders in the DSM. This hypothesis implies potential inclusion of other disorders like ADHD certain mood

disorders and psychotic spectrum disorders into the continuum based on shared genetic mutations risk factors and clinical symptoms. Within the context of this continuum EOS schizophrenia and LOS likely exist within a shared spectrum rather than as distinct entities. While the higher level of cognitive reserve typically seen in LOS may seem protective prognostically it may also obscure prodromal symptoms resulting in delayed diagnosis. This delay is likely due to the limitations of current screening tools in identifying more subtle early indicators such as isolated delusions. We present a case study of a 40-year-old active-duty female service member with recent-onset psychosis and a historical diagnosis of delusional parasitosis. Her presentation raised concern for LOS though she likely had prior psychotic episodes which fell below screening thresholds. This case underscores the potential benefits of an improved screening tool designed with the premise that EOS schizophrenia and LOS are all on the neurodevelopmental spectrum. Such a tool might have facilitated the earlier recognition of a psychotic spectrum disorder in this patient thus granting earlier access to treatment and potentially mitigating the patient's psychiatric decompensation. We aim to use this case as a framework to evaluate existing schizophrenia screening tools their efficacy in detecting LOS ongoing initiatives to improve these tools and evidence-based recommendations for their improvement.

Saturday May 04

### **Endocannabinoids in Physical Exercise and Their Role in Treatment of Substance Use Disorder**

*Shannon Savino; Rhea Shishodia; Tyler Laws-Mahe BA*

Background: Compulsive drug use involves activation of reward circuitry in the brain which involves dopamine (DA) endogenous opioids like  $\mu$ -endorphins ( $\mu$ -end) and endogenous cannabinoids such as anandamide (AEA) and 2-arachidonoylglycerol (2-AG). The endocannabinoid system (ECS) is also induced by physical exercise; it regulates reward mood and cognition.<sup>1</sup> Activation of the ECS may result in exercise-induced hypoalgesia (EIH) also known as "runner's high" which describes the acute reduction in pain sensitivity and brief euphoria following exercise. Previously EIH was determined to be caused by  $\mu$ -end; however more recent studies argue that  $\mu$ -end are too large to cross the blood-brain-barrier. Instead they exert their analgesic effects on skeletal muscle in the periphery.<sup>2</sup> Since drugs of abuse (DOA) and physical exercise both induce a similar mechanism in the brain it would be beneficial to use the brain's natural reward pathways in the treatment of Substance Use Disorder (SUD). Methods: PubMed articles were analyzed with the keywords "substance use disorder" "endocannabinoids" and "runner's high." We inquired about reward pathways in the brain that correlate to the mechanisms of DOA and exercise. Clinical trials and studies in rodents were excluded as well as research previous to 2009. Results: Although EIH is a natural mechanism of pain modulation alcohol nicotine and opiates have also been shown to increase AEA.<sup>3</sup> AEA and 2-AG modulate  $\mu$ -aminobutyric acid glutamate and DA in key mesolimbic areas.<sup>4</sup> The main endocannabinoid receptor CBR1 is the most abundant G protein-coupled receptor in adult brains with dense expression in regions of reward addiction and cognitive function.<sup>5</sup> People with regular exercise have lower rates

of SUD than those with less exercise and regular exercise in adolescence provides a preventive effect on alcohol and illicit drug use in adulthood.<sup>6</sup> Furthermore exercise caused a significant reduction in daily use and craving for cannabis in marijuana-dependent adults.<sup>7</sup> Most studies indicated that physical exercise can effectively increase abstinence rates ease withdrawal symptoms and reduce anxiety and depression. Physical exercise had greater reductions in depression symptoms in people with alcohol and illicit drug use than those with nicotine use. Abstinence rates were higher in illicit substance use compared to alcohol and nicotine use. Similar positive outcomes were found in three categories: exercise intensity types of exercise and follow-up periods.<sup>3</sup> Conclusion: Physical exercise can be an effective and persistent treatment for SUD based on its effects on mood cognition and pain modulation. There is also a mechanistic rationale for the development of CBR1 antagonists as anti-addiction medications. Further research regarding the ECS is needed to understand natural hedonic effects in the body and how it can be applied to clinical practice.

Saturday May 04

### **Friend or Foe? A Systematic Review of Obsessive-Compulsive Disorder and Symptomatology in Medical Students**

*Savannah Fakhouri BS; Katherine Wilson BS; Claire Pinson BS; Shawn Sidhu M.D.*

Background: Given the demanding nature of medical training many medical students strive for perfectionism and fear making mistakes. This may lead to the development of unhealthy safeguarding mechanisms. Herein we conduct the first systematic review synthesizing the existing literature on

obsessive-compulsive disorder (OCD) and related symptoms in medical students. Methods: We conducted a systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Our search strategy was developed with the institutional librarian and the PubMed Embase PsycInfo Google Scholar and Google databases were searched in August 2023 for all peer-reviewed articles published with no time limits related to the following search terms: “obsessive-compulsive” and “medical student.” Only original research studies investigating obsessive and compulsive conditions within the medical student population were included. Results: A total of 455 studies were screened 90 articles were assessed for full-text eligibility and 15 articles included in the final review originated from 11 different countries. Overall while heterogeneity exists in screening and diagnostic tools the prevalence of OCD symptoms ranged from 3.8% to 43% with half of the studies (5/10) assessing prevalence reporting at least one in three students (43% 36.2% 35.3% 34.7% 32.1%) having OCD symptoms. Studies focused on a wide range of symptomatology related to obsession or compulsion including unpleasant thoughts selfitis washing neutralizing checking hoarding and compulsive buying each with a prevalence of 51.8% 35.5-45.04% 2.37-22% 2.31-15.9% 2.5-29.6% 2.17-28% and 11% respectively. Multiple studies reported that female medical students presented more commonly with OCD symptomatology as compared to their male classmates. Another repeating theme from the literature was that first-year medical students presented with higher levels of OCD symptomatology than students in later class years and that the onset of the COVID-19 pandemic had a significant correlation with increases in OCD symptomatology.

Additionally depression anxiety and stress were consistently identified as factors that increased the risk for OCD in medical students. Conclusion: We report significant OCD symptom prevalence often at least 33% with a wide range of symptomatology among the medical student population. OCD disproportionately impacts female medical students those younger in training and external stressors such as the COVID-19 pandemic may further exacerbate OCD symptoms. Other factors such as depression and anxiety also put medical students at greater risk for OCD. Given the severity of OCD especially as it relates to future physicians these risk factors may raise awareness and aid in the timely identification prevention and management of OCD in this unique population.

Saturday May 04

### **Gender differences in Gambling Disorder: results from an Italian multicentric study**

*Luca Larini; Nicolaja Girone; Mauro Percudani; Beatrice Benatti; Bernardo Dell'Osso*

**Objective** Although gender-specific evidence on Gambling Disorder (GD) is still limited some studies reported specific differences mainly in psychopathological profiles gambling behavior patterns and pathogenesis. In order to further examine the role of gender in GD we conducted a multicenter investigation in a sample of Italian outpatients. **Methods** One hundred-four outpatients with a diagnosis of GD were consecutively recruited at two clinics based in Milan. No significant differences in terms of age and gender distribution were found between centers being therefore comparable. Diagnoses were obtained through the administration of a clinical structured

interview based on DSM-5 criteria. The severity of illness was assessed using the Canadian Problem Gambling Index and the Gambling Attitudes and Beliefs (GABS). Socio-demographic and clinical variables were collected for the whole sample and subsequently analyzed for the effect of gender. Statistical analyses were performed with Pearson's chi-squared test for categorical variables and Student's t-test for the continuous variables. Next a linear regression was used to test whether GABS severity could be predicted by gender **Results** Among females a significantly higher older age ( $52.23 \pm 10.95$  vs.  $40.96 \pm 15.76$ ;  $p=0.005$ ) and older age at illness onset emerged ( $43.5 \pm 11.92$  vs.  $29.22 \pm 14.26$ ;  $p<0.001$ ). Females showed a significantly higher rate of psychiatric comorbidities lifetime suicide ideation stressful events at GD onset and positive family history for GD. A predictive effect of male gender was found for Gambling Attitudes and Beliefs questionnaires by performing a linear regression model. **Conclusions** Our study seems to confirm the hypotheses that gender in GD may influence psychopathological profiles course and comorbidity. GD in female gender is frequently a comorbid condition with other specific clinical characteristics compared to males. These findings should be considered in therapeutic perspectives.

Saturday May 04

### **Google searches for alcohol and association with alcohol-coded outpatient encounters in a geographically co-located metropolitan area**

*Allison Constant M.D.;M.S.; Honor Hsin M.D. Ph.D.*



**Abstract Background:** Google search trends at a population level have previously been shown to correlate highly with epidemiologic phenomena including those related to mental health. Whether Google Search queries can predict trends in healthcare utilization for alcohol-coded encounters is less clear. This retrospective cohort study examines associations in alcohol-coded encounters from outpatient clinic with aggregate Google Search trends for alcohol within the same geographic area. **Methods:** Clinical data were gathered from electronic health records of patients over the age of 13 who had an alcohol-coded encounter at Kaiser Permanente Northern California outpatient clinics (family medicine obstetrics/gynecology psychiatry and pediatrics) between 01/01/2017 and 3/31/2022 in catchment areas that best corresponded to the San Francisco-Oakland-San Jose metro area as defined by the Google Trends data. These data were examined in relation to Google search trends for “alcoholic beverage” in these catchment areas. Outpatient encounters with alcohol-coded diagnoses in the week of interest were normalized to the total number of outpatient encounters for that week. Time-matched correlation analyses between Google Trends search terms and alcohol-coded diagnoses at time lags of 0 up to 13 weeks were also performed. **Results:** There was a periodicity to Google search trends for alcoholic beverage with annual peaks in December/January and an atypical peak in March 2020 coinciding with initiation of shelter-in-place policies during the COVID pandemic. For the clinical data a total of 45822891 outpatient encounters were included in this study. There was a weak positive correlation between Google Search trends and alcohol-coded diagnoses from outpatient encounters at a lag of 2-7 weeks

(range of Pearson coefficient 0.16-0.19 Spearman coefficient of 0.03-0.13).

**Conclusion:** This study represents a first step toward better understanding of the potential utility of Google search trends as a possible epidemiologic marker for alcohol-coded healthcare needs. Additionally it provides insight into the impact of COVID shelter-in-place policies on alcohol-related searches and healthcare utilization.

**Saturday May 04**

### **Implementation and Evaluation of a Telepsychiatry Pilot Curriculum for Medical Students**

*Khevna Joshi BA; Maya Van Gieson BA; Christopher Conroy BA; Jessica Goldhirsh M.D.*

**Introduction:** The use of telemedicine has grown significantly over the past several years in response to the COVID-19 pandemic and accelerated social acceptance of telehealth as a valid care-delivery modality (Predmore et al. 2021). Expansion into telemedicine has been particularly pronounced within the field of psychiatry (Shaver 2022). These changes in care delivery necessitate changes in medical student education if physicians are to meet the evolving needs of their patients. However some medical students may have only sporadic incidental clinical telemedicine experiences rather than structured and comprehensive training (Kong et al. 2020). **Methods:** A pilot telepsychiatry educational program was developed and implemented within the Geisinger Commonwealth School of Medicine. Third-year medical students as part of their psychiatry clerkship were educated in “websites manner” as well as the various advantages and disadvantages of telemedicine. They then completed a half-day outpatient rotation with a telepsychiatry

attending. At the end of the entire psychiatry rotation students provided feedback on their experience via a combined quantitative and qualitative survey instrument that included both Likert scales and open-ended questions. Results: Within the total of 137 third-year medical students more than half (64%) of students selected that they “strongly agree” or “agree” that the outpatient telepsychiatry experience was a valuable addition to the clerkship while only 8% “strongly disagreed” or “disagreed” with this statement. Slightly above a quarter (27%) of students reported that the supervision with the telepsychiatrist was “significantly better” or “slightly better” than their experience with the in-person psychiatry supervision while only 15% thought that the telepsychiatry supervision was “significantly worse” or “slightly worse.” Over half (56%) of the comments stated this experience was valuable and/or enjoyable. 17% of respondents noted they would appreciate more time devoted to the telepsychiatry experience. 17% of respondents noted they received feedback and/or were highly participatory during their experience. However about 20% of the comments mentioned technological issues during the session. 15% of respondents indicated they would not recommend this experience to other students and/or described a low level of participation during their experience. Discussion: This implementation of a telepsychiatry pilot rotation for third-year medical students was met with mostly positive feedback from participants. Incorporation of dedicated telepsychiatry training into medical school curricula can enhance learner experience increase faculty and clerkship capacity in underserved areas and provide foundational skills for physicians-in-training to adapt to an evolving healthcare landscape.

Saturday May 04

### **Is Formal Education a Risk for Mental Health and Substance Use Relapse?**

*Kimya Rod M.D.; Pronoy Roy MD*

This is the case of Ms. R a 70-year-old White woman who is single undomiciled living in a shelter in the Bronx no longer employed after a long career as an attorney. She has a history of a strained relationship with family and is estranged from her daughter. She has past psychiatric history of major depressive disorder anxiety and alcohol use disorder with multiple inpatient psychiatric hospitalizations and inpatient substance use rehabilitation treatment. She denies history of suicide attempts or self-injurious behavior but has endorsed periods of suicidal ideation since 2021. Her functioning declined in 2021 she required two mobile crisis team visits and was the subject of multiple adult protective services reports activated by her landlord at the time for concerns about her personal hygiene and alcohol use. She has presented to multiple emergency departments throughout New York for suicidal ideation. She presented to the ED at a large urban hospital for anxiety and suicidal ideation. Psychiatry was consulted to evaluate her suicidal risk. During the interview she remained anxious and was endorsing depressive symptoms such as hopelessness decreased energy and impaired concentration and sleep. She reported her mood was “not good” however had good insight to her current psychiatric condition stating “I have an alcohol problem”. Due to her risk factors for suicide and need for treatment she was admitted to the hospital. Medications were started sertraline for depression and mirtazapine for anxiety. Literature suggests for patients with suicidal

ideation higher education levels are associated with an increased risk of suicidality. However for patients with substance use disorder higher education levels are associated with a decreased risk of relapse. The patient's chronic alcohol use led her to have increased periods of instability resulting in depressive episodes and suicidal ideation. Loneliness and social isolation was a major risk factor for her worsening mental health and relapse. Due to her alcohol use disorder the patient has lost her housing her social and family connections her job as an attorney and has been relying on the emergency department as her main source of care and housing. She has not been able to maintain continuity of care in an outpatient setting. This poster explores the possible connection between higher education levels and the risk of relapse on substance use. There is still more research that needs to be done to understand the relationship between education and substance use relapse and to identify contributing factors. Potential protective factors that could be investigated include strength of social relationships family involvement in treatment plans and involvement of a multidisciplinary team for continuity of care. These factors can help develop personalized relapse prevention plans that are individualized for each patient. Which in turn can reduce the likelihood of substance use relapse.

Saturday May 04

### **Ketamine Induced Cystitis: A Review of Previous Literature with Presentation of a Novel Case**

*Omar Bajwa M.D.; Rushikesh Vyas M.D.;  
Gloria Reese*

Background: Ketamine a psychedelic compound is recognized for its dissociative

anesthetic and hallucinogenic properties. The use of Ketamine is becoming more prominent leading to potential physical complications and need for more understanding of an important potential side effect: ketamine induced cystitis (KIC). Objective: A prominent and potentially harmful symptom associated with illicit ketamine use is cystitis. There is limited research and this study aims to present a novel case to help further the field's understanding of KIC. Case Presentation: We present a case of a 28-year-old Caucasian male with a five-year history of daily ketamine use. The patient began to develop physical symptoms of urinary incontinence and bladder pain that were relieved with concomitant use of a small amount of alcohol. The patient presented to the hospital seeking detox from Ketamine. Little is known on the best management for ketamine withdrawal and ketamine induced psychosis. This study hopes to highlight the need for further investigation into KIC. Methods/Results: Multiple studies were reviewed to assess for similarities between the case that has been presented associated with ketamine and bladder complications. One study found that while 84% of chronic ketamine abusers demonstrated urinary tract symptoms only 48% sought treatment. In reviewing previous literature studies have suggested that ketamine users report urinary symptoms significantly related to Cystitis include urinary pain ureter stenosis and kidney failure all of which significantly impact patients' quality of life however very little is known about the management. As illicit ketamine use continues to become more popular a better understanding of the etiology and management of these complications is necessary. Discussion: This report contributes to the existing literature by underscoring the significance of understanding and addressing KIC. As illicit

ketamine use becomes more common the potential for addiction demands vigilant management to avert enduring health complications including KIC. While interventions for KIC exist further investigation is imperative to optimize treatment strategies and enhance patient outcomes.

Saturday May 04

### **Methamphetamine use and Parkinsonism: A narrative review and two case reports.**

*Pooja Chaudhary M.D.;M.P.H.; Olaniyi Olayinka MD; Erika Salarda M.D.; Syamjith Jayadevan*

Background: Methamphetamine (METH) is a highly addictive psychostimulant. With an estimated 1.2 million current users it poses a serious public health problem in the United States<sup>1</sup>. Multiple pre-clinical and clinical studies have shown the neurotoxic effects of METH<sup>2</sup>. However clinical data on the potential link between METH use and PD (Parkinson's disease) or parkinsonism remains limited. This review supplemented by two case studies from a large in-patient psychiatric facility aims to address this gap. Methods: We conducted a narrative review of literature on METH and PD and parkinsonism utilizing standard databases including PubMed and Google Scholar. MeSH terms were employed to refine our search and studies were selected based on careful consideration of their titles and abstracts. Additionally we present two case studies to complement our findings. Results: METH use has been found to cause damage to dopaminergic neurons causing an elevated (up to a threefold) risk of PD and parkinsonism among METH users<sup>3-6</sup>. Additionally several other molecular mechanisms such as increased alpha-

synuclein tau phosphorylation and dysfunction of ubiquitin proteasome system have been proposed to explain the observed neurodegeneration in METH users<sup>7</sup>. Case Report 1: A 52-year-old female with a history of chronic METH use disorder hypertension and PD was admitted to an inpatient psychiatric facility due to worsening depression psychosis and suicidal ideations exacerbated by psychosocial stressors. Examination was notable for PD features including shuffling gait and tremors. Initially aripiprazole was prescribed but discontinued due to reported substance-induced psychosis. The patient was started on fluoxetine for depression mirtazapine for sleep along with her home medication carbidopa-levodopa (prescribed after chronic use of METH). Symptoms improved on Fluoxetine 60 mg and Mirtazapine 30 mg oral daily and CBT. The patient was discharged to a long-term rehabilitation facility. Case Report 2: A 51-year-old male with a history of schizophrenia depression and methamphetamine use disorder as well as multiple medical comorbidities was admitted to an in-patient psychiatric facility for paranoid delusions command hallucinations and suicide attempt. The patient reported chronic intravenous use of METH and cocaine. Examination revealed a slow narrow based and shuffling gait which was attributed to chronic METH use. Aripiprazole 5 mg was used for psychosis and mood stabilization and amantadine 100 mg oral twice a day was started. During the hospitalization both psychosis and mood improved. The patient was provided with substance use education and counseling before being discharged home. Discussion: The use of METH may contribute to the development of PD and parkinsonism. Although these conditions are not fully reversible vigilant clinicians can utilize this information to provide appropriate

patient counseling and initiate early treatment for METH users.

Saturday May 04

### **Moderating effect of food addiction on eating pathology severity.**

*Camille Bourque; Maxime Legendre; Alycia Jobin; Félicie Gingras; Catherine Bégin; Juliette Beaupre*

Background: Food addiction (FA) is characterized by a feeling of loss of control over food and typical substance use disorder symptoms like cravings consumption more than planned and inability to cut down or stop. Although FA is not recognized in the DSM-5 many studies have supported the relevance of this construct as it allows to target more severe patients. For instance FA has been proposed to represent the more severe form of compulsiveness on a continuum of eating behaviors (Bonder & Davis 2022) to impact treatment responses (Munguía et al. 2022) and to represent a distinct phenotype within overweight and obesity marked by greater emotion dysregulation impulsivity and cravings (Schulte & Gearhardt 2021). In the same vein the aim of this study was to examine the moderating effect of FA on the patient severity while taking into account the presence of an eating disorder. Methods: Patients (N=193) were recruited from the Centre d'Expertise Poids Image et Alimentation and then categorized according to the presence of an eating disorder: binge eating disorder (BED; n=72) eating disorder not otherwise specified (EDNOS; n=58) and no eating disorder (noED; n=63). Patients had to be at least 18 years old and have a body mass index greater than or equal to 25 kg/m<sup>2</sup>. Patients completed a diagnosis interview and a battery of questionnaires including the Yale

Food Addiction Scale 2.0 (YFAS) the Three Factors Eating Questionnaire (TFEQ) the Cumulative Childhood Trauma Questionnaire (CCTQ) the Cognitive Emotion Regulation Questionnaire (CERQ) the Temperament and Character Inventory (TCI-125) and the Impulsive Behavior Scale (UPPS-P). T-tests were used to compare participants with and without FA within each of the three groups: BED EDNOS and noED. Results: Within the BED group patients with FA had greater disinhibition resort to more non-adaptive emotion regulation strategies had higher harm avoidance and impulsiveness and lower self-directedness ( $p < 0.05$ ). Within the EDNOS group patients with FA had greater disinhibition and susceptibility to hunger resort to more non-adaptive emotion regulation strategies and had lower cooperation ( $p < 0.05$ ). Within the noED group patients with FA had greater disinhibition and susceptibility to hunger resort to more non-adaptive emotion regulation strategies reported more childhood trauma and had lower self-directedness ( $p < 0.05$ ). Conclusion: Patients with FA systematically reported more disinhibition and more non-adaptive emotion regulation strategies no matter their eating disorder. Other variables like childhood trauma and personality traits (self-directedness harm avoidance cooperation and impulsiveness) allowed to differentiate patients with FA than those without FA only within certain eating disorder group. Globally this study highlights the relevance of assessing FA in conjuncture with eating disorder to better capture the level of severity of each patient.

Saturday May 04

### **Neuroinflammation and Neurotoxicity in Methamphetamine Use**



*Shannon Savino; Ikroop Miglani*

Background: Methamphetamine (mAMP) is a highly addictive psychostimulant that produces a rapid euphoria caused by release of dopamine (DA) norepinephrine and serotonin which makes it one of the most widely abused substances worldwide.<sup>1</sup> Unfortunately there is compelling evidence that the chronic use of mAMP causes neuronal damage through oxidative stress and apoptosis.<sup>2</sup> Lasting deficits experienced by chronic mAMP users include lapses in executive function episodic memory and information processing. This can lead to impairments of working memory memory recall response inhibition and risky decision making.<sup>3</sup> Some of these cognitive deficits persist after prolonged periods of abstinence indicating that there are direct neurotoxic and inflammatory effects of the drug.<sup>4</sup> In this review we aim to analyze neuronal pathways that result in long term brain changes from chronic mAMP use. Methods: PubMed articles included the keywords “methamphetamine abuse” “neuroinflammation” and “neurotoxicity.” Open access articles on the acute and chronic effects of mAMP were analyzed. We inquired about oxidative stress inflammatory and apoptotic pathways that lead to cognitive deficits in mAMP users. Results: Chronic mAMP consumption induces an elevation of extracellular DA levels due to the disruption of vesicle monoamine transporter-2 and plasma membrane DA transporters. The excitatory activation of N-methyl-D-aspartate receptor and metabolic glutamate receptor by glutamate (Glu) subsequently results in heightened intracellular Ca<sup>2+</sup> concentrations which promote increased production of nitric oxide synthase.<sup>3</sup> Therefore increased concentrations of DA and Glu in the substantia nigra are associated with increased neurodegeneration by oxidative

stress. Furthermore the process involves the regulation of transcription factors DNA damage and the activation of pro-apoptotic pathways all of which are implicated in the neurodegenerative effects associated with mAMP use.<sup>3</sup> Persistent mAMP usage is linked to neurologic and psychiatric symptoms and has been found to have detrimental adverse consequences on fetuses exposed to the drug in utero.<sup>1</sup> Studies suggest that prefrontal cortical degeneration resulting from mAMP use may be mitigated through abstinence and the incorporation of cortical enhancers.<sup>4</sup> Conclusion: Persistent mAMP consumption disrupts neurotransmitter regulation thereby elevating oxidative stress levels and triggering the activation of pro-apoptotic pathways. These effects are closely linked to enduring long-term neurologic and psychiatric alterations in the brain arising from nigrostriatal neurodegeneration. This research holds significant importance in shedding light on the longitudinal consequences of chronic mAMP use. This investigation becomes particularly pertinent as interest in exploring the potential therapeutic applications of amphetamines in medicine and research continues to grow.

Saturday May 04

### **Oral Thiamine Supplementation in Alcohol Use Disorder a Scoping Review**

*Sean Sedore D.O.; Susan Nelsen*

Background Thiamine (vitamin B1) is an essential vitamin that has been synthesized and utilized to treat thiamine deficiency for almost a century. Despite being an available treatment for many years oral supplementation guidelines have not been standardized for patients with alcohol use disorder. Little information exists regarding both the importance of and how to

supplement orally although this is often the only option for thiamine replacement on inpatient psychiatric units. A review of the literature was conducted on the use of thiamine supplementation for alcohol use disorder with a goal of identifying if and how to properly supplement prior to the development of permanent injury namely Korsakoff Syndrome. **Methods** A scoping review was conducted of the literature regarding supplementation of thiamine in alcohol use disorder from 2013 to 2023 by searching PubMed Embase Web of Science and Google Scholar using the following search terms: thiamine OR thiamin OR vitamin B1 AND alcohol OR alcohol use disorder OR alcohol withdrawal AND oral. Publications with full articles available were included and these articles needed to discuss oral thiamine replacement. Exclusion criteria included articles discussing thiamine supplementation via only intravenous or intramuscular routes. **Results** Alcohol use disorder decreases thiamine levels via multiple mechanisms and review of the literature indicates the importance of supplementing with oral thiamine which applies to inpatient psychiatric wards that prohibit intravenous access. The recommended dietary allowance of thiamine for healthy adults is 1.2mg for males and 1.1mg for females. Thiamine has a bioavailability of 3.7-5.3%. Based on a review of the literature we recommend supplementing patients admitted to psychiatric wards that lack intravenous access with oral thiamine 100mg daily and discharging with a 30-day supply of thiamine 100mg daily. **Conclusion** Thiamine deficiency can result in significant medical complications and conditions that are potentially irreversible to include Korsakoff Syndrome. A review of the literature supports oral supplementation for patients with

alcohol use disorder. In psychiatry this can be applied to psychiatric inpatients who are admitted with an active diagnosis of alcohol use disorder and lack intravenous access due to ward restrictions. While there is no established standard we propose oral supplementation of 100mg daily followed by discharge with a 30-day supply. Given thiamine is well-tolerated affordable and easily supplemented the benefits of preventing thiamine deficiency outweigh the irreversible consequences if left untreated.

Saturday May 04

### **Personality Assessment Inventory Aggression Scale and its Relationship to Psychological Health and Well-Being and Impulsivity**

*Sujith Maracheril M.D.; Sonia Kumar D.O.; Michael Angela Omongos; Daniel Napack; Joanna Stanczak*

**Introduction:** We investigated the construct validity of the PAI Aggression scale with a sample of inpatient chemical dependency patients. We wanted to see how the aggression scale would relate to measures of impulsivity and psychological health as these constructs have been linked in the clinical literature. **Methods:** 275 patients being seen at a suburban medical center's inpatient 28-day chemical rehab consented to complete some assessment measures. The average age of participants was 34.09 years of age (SD=11.6). 75% were Caucasian 11.65 were African American 8.8% were Hispanic/Latino 0.6% were Asian and 3.7% responded as "other." The primary substances they were being treated for were: 34.2% opiates 32% alcohol 1.1% benzodiazepines 4.4% marijuana 20.3% multiple substances. As part of a larger assessment packet patients completed the Personality Assessment

Inventory (PAI Morey 2007) Barrett Impulsivity Scale-11 (BIS-11 Patten et al. 1995) and the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999). Results: The PAI Aggression scale positively correlated to the BIS-11 scales of attentional ( $r=.28$   $p<.001$ ) motor ( $r=.23$   $p=.001$ ) and nonplanning ( $r=.22$   $p=.001$ ) and psychological health and well-being ( $r= -.15$   $p=.03$ ). Discussion: Our results further extend the validity of the PAI Aggression scale as it is related in predictable ways to constructs such as impulsivity and psychological health and well-being. The use of such measures is helpful for treatment planning when treating chemical dependency.

Saturday May 04

### **Post discharge support for patients with substance use and concurrent disorders. Program description and factors associated with emergency department**

*Narges Beyraghi; Helena Kim; Ari Cuperfain; Yasaman Ghazavi; Pamela Kaduri*

Background: We describe a multidisciplinary outpatient service (Intensive Recovery Discharge Team IRDT) developed during the COVID-19 pandemic to support and ensure continuity of care for patients with substance use and concurrent mental health disorders after discharge from inpatient services. Identifying patients with substance use disorders (SUDs) at a higher risk of readmission after discharge at the time of referral to the IRDT which can allow for the proactive allocation of additional resources for closer follow-up can be beneficial. In this context we performed an analysis of the electronic health records data from 716 patients enrolled in IRDT from February 2021 to 2023. We aimed to identify risk factors associated with presenting to the ED during

the two weeks of IRDT follow-up. Methods: Our patient sample was from the Centre for Addiction and Mental Health Toronto Canada. Sociodemographic information service utilization data and ED presentations were extracted from the chart review. Decision trees were created using the ROC 5.07 program with five-fold cross-validation. Results: On average patients had five appointments scheduled during the 2-week follow-up period. Approximately one-quarter of IRDT appointments were no-shows. Patient retention to the final week of follow-up was high although less than half of the patients attended their discharge appointment. 10.7% of the patients presented to the ED while followed by IRDT. Patients who were enrolled in IRDT more than once did not have opioid use disorder (OUD) and identified as male had a higher likelihood of ED presentations. Among patients with all three risk factors the average rate of ED presentations reached 20.1% double the average rate. Conclusion: Our decision tree could aid in the early identification and proactive management of patients prone to ED presentations ultimately enhancing the care and support provided to individuals with SUDs.

Saturday May 04

### **Psilocybin Treatment for Smoking Cessation: A Literary Review**

*Sibtain Kazmi; Fauzia Arain M.D.; Aitzaz Munir*

Smoking tobacco causes around 7 million deaths per year globally and about 480000 deaths in the US annually. By 2030 it is estimated that about 8 million deaths will be caused by smoking worldwide. Psilocybin is a psychedelic that is gaining popularity as an alternative treatment for mood anxiety and addictive disorders to name a few. Historical research also shows its potential in quitting

smoking. Our review examined the existing evidence showing psilocybin's effectiveness as a treatment for smoking cessation. Currently there are three FDA-approved treatments for smoking cessation including nicotine replacement treatments (NRT) such as transdermal patch [NicoDerm®] lozenges gum [Nicorette®] norepinephrine dopamine reuptake inhibitors bupropion (Zyban®) and the nAChR agonist drug varenicline. However these methods' effectiveness have not shown to last long-term to maintain abstinence. Psilocybin offers a novel mechanism to achieve smoking cessation. We used PubMed and Google Scholar for a literature search with the search criteria including papers determining the association between psilocybin use and smoking cessation. The search was limited to clinical trials using the English language. Case reports case series reviews and meta-analyses were excluded. The search yielded four studies of which two were prospective trials two were retrospective studies and one open-label study. All reviewed studies reported smokers abstaining from smoking longer after psilocybin administration compared to current FDA-approved treatments. Although the most prominent findings are based on an open-pilot survey psilocybin administration successfully resulted in 6-month smoking cessation in 80% of participants. In contrast varenicline was reported to have cessation rates as low as 27% at 6-month follow-up. The reviewed studies show that psilocybin may offer an effective alternative to currently approved treatments for smoking cessation. Favorable safety profiles lower abuse potential sustained abstinence and lower costs equate to an increased number of people resorting to psychedelics to treat various psychiatric disorders not adequately managed by current treatments. However large randomized controlled trials are

warranted to confirm open-label study findings.

Saturday May 04

### **Reviewing Replacement Therapy for Stimulant Use Disorders**

*Mirza Khan D.O.; Aaron Iuppa MD*

The use of methamphetamine has grown multifold over the past decade with devastating impact on individuals and communities. However there are still no established evidence-based pharmacologic treatments for methamphetamine or stimulant use disorders. Agonist replacement therapy has proven to dramatically reduce morbidity and mortality from opioid and tobacco use disorders. Consequently interest in the potential of agonist replacement therapy to improve outcomes for methamphetamine use disorder is growing. There are a few studies that have reviewed the effectiveness of social interventional and pharmacological interventions for stimulant use disorder. However there is a shortage of studies particularly looking at the outcomes of prescribed psychostimulants for replacement therapy for methamphetamine use disorder. We reviewed studies investigating the use of prescription psychostimulants as replacement therapy. We searched for research articles on PubMed and ClinicalKey databases using keywords and phrases including; amphetamine methamphetamine pharmacotherapy methylphenidate amphetamine use disorder. The search resulted in research articles dating between 2014-2020 with variable findings. To summarize the variance some studies show possible efficacy of agonist therapy in stimulant use disorder some show no difference yet most were inconclusive. In regard to the studies showing efficacy; one

shows low-strength evidence that methylphenidate may reduce the use of methamphetamine one shows a possible level of reduction in use when methylphenidate is used alongside behavioral support and another shows a significant beneficial effect from prescription psychostimulants in abstinence in individuals but mainly in cocaine use. In this poster we intend to review the current literature regarding prescribed psychostimulants for replacement therapy for methamphetamine use disorder. We will use the review of the literature to elucidate the possible benefits early tests have shown. Studies show stimulant medication can be administered safely in patients with stimulant use disorders however their effectiveness is still controversial. We hope to promote at least an appreciation regarding the need for further research in this area.

Saturday May 04

### **Shifting the Paradigm: Moving Away from Police Response to Mental Health Crises**

*Nicholas Lozano MPH MBS*

The de-institutionalization of mental health was not met with adequate resources to treat patients with acute mental health crises in an outpatient setting. People with untreated mental health illness are 16 times more likely to be killed by police force. Police lack proper training to recognize the immediate needs of a person with an acute mental health crisis and are not always equipped to treat overdoses. Police response to mental health crisis can lead to unnecessary hospitalizations emergency department visits or extraordinary harm to the person in crisis. Police protections prevent accountability for subjecting a person in crisis to unnecessary harm. This presentation reports on alternative

paradigms to police in responding to acute mental health crises including acute intoxication and overdose. Methods: This is a literature review with keywords “mobile crisis teams” “severe mental illness” “substance overdose” and “police.” Two paradigms of community response teams Behavioral Health Emergency Assistance Response Division (B-HEARD) in New York City New York and Crisis Assistance Helping Out on the Streets (CAHOOTS) in Eugene Oregon were reported as successful examples of non-police response to behavioral crises. In 2022 B-HEARD responded to 11000 calls and 53% of the calls required hospital follow 24% of the calls were managed onsite 12% of the calls required intervention of another community organization and 11% of the calls ended up with the person in need refusing medical care. This is compared to police response during the same time in which 87% of the calls required hospital follow up and 13% of the calls ended up with the person in need refusing medical care. In 2021 CAHOOTS was the only response team to 14212 calls for which it only required law enforcement back up for 301 calls (2.18%). This presentation adds to existing literature by outlining ways in which we can support people with severe mental illness in the community without exposing them to unnecessary harm from a police presence. There was no funding for this research project.

Saturday May 04

### **Stigma reduction by incorporating recovered patients in the management of substance dependence in rural North India- A qualitative study.**

*Harneet Kaur; Hershdeep Singh*



Background: Substance use disorder in India is a major public health concern that has become common in Indian females. More than often the treatment is avoided due to social stigma or the management is left after the acute phase of treatment due to lack of resources and manpower. Here we present the rehabilitation of the female patients incorporating already treated patients in the recovery stage thus implementing the sponsorship concept of the therapeutic communities in the western world.

Methods: 20 females from rural areas of North India were recruited assessed and diagnosed with alcohol/opioid/tobacco dependence in accordance with ICD 11 criteria. Patients were managed conservatively in the acute stage. 10 females were recruited in the recovery stage (sponsors) from the already treated patients in the department of Psychiatry Guru Teg Bahadur hospital Ludhiana. Both the groups were introduced and matched as per patient's socioeconomic backgrounds. The sponsors were psychoeducated and advised to guide and support the acute patients in the crisis and emergency cravings for the substance. Group meetings were held once in 2 weeks to assess the abstinence and the motivation of the acutely treated patients.

Results: It was observed on qualitative data that patients remained abstinent and were highly satisfied with the sponsors supporting them in the crisis telephonic calls and in person meetings. Thematic assessment of feedback sessions had following results: a) Appreciation of support b) Comfort of the reduction of stigma c) improved quality of life d) motivational enhancement e) feeling of empowerment.

Saturday May 04

## **Swollen Hands and Fluorinated Urine: Chronic Inhalant Abuse**

*Emily Tibbitts D.O.; Savannah Woodward M.D.; Roger Quach*

A 27-year-old female active-duty service member with a past psychiatric history of PTSD and Borderline Personality Disorder was brought to the ED by EMS after she was found unresponsive in her car surrounded by numerous cans of computer duster. She reported inhaling several cans daily for the past five months. She reported several months of worsening anxiety and depressive symptoms as well as two months of worsening bilateral hand pain and swelling with ongoing work up with rheumatology. Collateral information revealed she had been intermittently missing work and had received numerous large shipments of Dust Off over the past several months. She was established with an outpatient psychiatrist; however she had been denying inhalant abuse up until she began to have difficulties at work. Significant labs revealed urine fluoride was found to be abnormally elevated to 50 (normal 0.2-3.2). Inhalants are becoming increasingly popular in subsets of the population due to several intrinsic and extrinsic characteristics. Experts have described inhalant use as "the Silent Epidemic" due to its relative lack of attention given by both physicians and the public. Inhalants are easily accessible legal and inexpensive. Although inhalant use is more commonly associated with the adolescent population additional subsets are at risk particularly the US military as abuse of this substance can be difficult to identify (i.e. it is not screened for on a standard urine drug test). One inhalant in particular 11 difluoroethane (11-DFE) is found in household computer duster cans and is becoming especially popular. When 11-DFE is metabolized into a fluorinated compound it is

deposited into surrounding tissues and bone. This excess fluoride stimulates a periosteal reaction resulting in bone formation throughout the entire body as was present in this patient. In this poster we will discuss the challenges of detecting inhalant abuse and the medical complications associated with chronic use as illustrated by the case review with a focus on lab and physical exam findings which may be indicative of abuse of these substances.

Saturday May 04

**The comorbidity between eating disorders and alcohol misuse: Biological and psychological perspectives illustrated by a case report**

*Eduardo Andres Calagua Bedoya M.D.; Kevin Chen MD ScM; Patrick Ho M.D.*

Ms. D is a 57 year-old female with a medical history of osteoporosis headaches gastroesophageal reflux disease irritable bowel syndrome and a psychiatric history of major depressive disorder anorexia nervosa (AN) anxiety and alcohol use disorder (AUD). She was referred from neurology for an outpatient psychiatric consultation given her complex history. Ms. D describes disordered eating behaviors including food avoidance and restriction and compensatory behaviors such as self-induced vomiting use of laxatives diuretics and enemas and extreme exercise. Ms. D reports that her eating problems stem from early childhood experiences revolving around control and sibling rivalry. Her current BMI is 15. She continues to weigh herself daily and believes she is overweight. She also endorses several neurovegetative symptoms of depression and comorbid anxiety as well as history of abuse but no trauma-related symptoms. She reports impulsive behaviors such as buying multiple things online that she

does not use and stealing items from stores. Obsessional features were also present. Ms. D's alcohol use began in college but became problematic in her 40s. She currently drinks daily in an effort to stimulate her appetite. Cognition was intact during the evaluation. Complete blood count comprehensive metabolic panel thyroid function tests vitamin levels and estradiol parameters were all within normal range but lipase was increased. A recent brain MRI with and without contrast showed evidence of an old ischemic event in the frontal area but no acute anomalies and cortical volume was appropriate for her age. Ms. D was recommended to start a second generation antipsychotic to address her insomnia poor appetite impulsivity and depression. She declined medications for her AUD and referral to an eating disorders program. In this poster we discuss associations existing between AN and AUD emphasizing the biological and psychological aspects of both conditions. Statistically individuals with eating disorders and comorbid AUD have a higher mortality risk when compared to patients without AUD. From a biological perspective AUD and eating disorders might share a genetic overlap and it has also been hypothesized that AN and AUD share abnormalities in the brain reward system. Wernicke-Korsakoff syndrome (WKS) has been classically associated with AUD but other conditions including AN can also present with WKS. Two major warning signs for nonalcoholic WKS are weight loss and vomiting. This is challenging for AN patients as such symptoms may be part of the disordered eating diathesis. Psychologically traits like impulsivity rigidity novelty-seeking behaviors desire for control and obsessional thinking are seen in AUD and AN. Both alcohol misuse and food restriction can be conceptualized as attempts to self-medicate in order to decrease intrapsychic conflicts.

Exploring psychodynamic and behavioral aspects in AN and AUD is key for treatment purposes.

Saturday May 04

### **The Poison or the Cure?: The Therapeutic Value of Video Games in ADHD**

*Najiha Alam; Ikroop Miglani*

**Background:** For many “playtime” is an essential aspect of childhood. With the advent of online gaming playtime for children has evolved into virtual forms of play.<sup>1</sup> More than 90% of children play video games with children 8-17 years old spending an average of 2 hours playing video games daily.<sup>1</sup> For many children gaming is a normal and healthy pastime. However this differs from pathological gaming (PG) when it disrupts daily life leads to obsession and causes problems in relationships and responsibilities. Referred to as Internet Gaming Disorder (IGD) addiction to gaming is described in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition as a condition that requires more investigation initiating extensive debate and expanding research.<sup>23</sup> Prior discourse stated PG behaviors were a risk factor for the development of Attention Deficit Hyperactivity Disorder (ADHD).<sup>4</sup> Of the 12 possible risk factors for IGD among youth ADHD sits among the most debated.<sup>5</sup> While some studies suggest that children and youth (C-Y) with ADHD are at higher risk for developing PG others propose that ADHD might precede PG indicating that PG could be a maladaptive coping mechanism for those with ADHD.<sup>67</sup> Newer studies propose that this unique aspect of gaming can train children with ADHD into developing long term gratification coping skills.<sup>189</sup> The purpose of this review is to explore the therapeutic value

of video games in helping children with ADHD learn delayed gratification coping skills. **Methods:** We reviewed studies on Google Scholar and Pubmed that investigated the efficacy of gaming treatment in ADHD in children. Search terms included “video game therapy” and “ADHD.” After selecting for the inclusion criteria of studies that were published between 2018-2023 open access and included our population of interest (C-Y) we focused on the four articles remaining. **Results:** Of the studies included in our review 2 are randomized control trials (RTC) and 2 are literature reviews.<sup>78910</sup> A systematic review of 128 studies concluded that “serious video gaming” show promise as an effective cognitive rehabilitation tool for patients with ADHD.<sup>89</sup> With a  $p < 0.01$  both RTCs concluded that virtual gaming including those in virtual and augmented reality used in digital cognitive rehabilitation improved executive functioning in C-Y with ADHD.<sup>710</sup> An RTC of 28 C-Y with ADHD (8-12 yo) found that computer-simulated motion-based exercises enhanced working memory.<sup>7</sup> Another RTC of 24 C-Y with ADHD (7-12 yo) found that the experimental group placed in computer game therapy had greater improvements in working memory than the play therapy control group.<sup>10</sup> **Conclusion:** Computer games as cognitive therapy effectively managed ADHD in children outperforming play therapy in enhancing working memory. This highlights the potential of cognitive computer game training in ADHD treatment though more research is required to determine its optimal use.

Saturday May 04

### **Uses and Benefits of Psychedelics in Psychiatric Clinical Practice: A Literature Review**

*Moo Jin Oh Resident Physician PGY 3; Syam Khan; Daniel Ulloa*

Introduction: Psychedelic substances have been shown a renewed interest when treating psychiatric illnesses including addiction depression anxiety and Post Traumatic Stress Disorder. These drugs are being studied to assess the psychopharmacological properties and therapeutic efficacy to serve as adjunctive treatment to the current medical approaches. Psychedelics are defined as a class of natural and synthetic compounds that include psilocybin MDMA (3,4-methylenedioxyamphetamine) ibogaine and DMT (dimethyltryptamine). These compounds were categorized as schedule I controlled substances meaning that they did not have any accepted medical use and possessed a high potential for abuse halting further research (2). Methods: A collection of databases PubMed and Google Scholars was used to synthesize information for this literature review. Two articles were found using the PubMed database. An additional two articles were found using Google Scholars. Keywords utilized were psilocybin psychedelics clinical setting MDMA LSD depression anxiety and DMT. Results: Recent interest in the serotonergic properties of these compounds has increased with psychedelics coupled with psychotherapy showing preliminary evidence of effective treatment for various psychiatric conditions. There is belief that these compounds act on the local brain network hubs to exert therapeutic effects by resetting the brain network after the acute effects of the compound have resolved. (3) Two models of psychotherapy are used currently: psychoanalytic therapy and psychedelic therapy. Psychoanalytic therapy emerged from Europe in the 1950s which utilized psychoanalytically informed talk-therapy while using low-to-moderate doses of LSD (30-200 micrograms)

over the course of several sessions to facilitate a discharge of emotionally charged psychic tension. Psychedelic therapy developed in the United States which utilized high doses of psychedelic compounds such as greater than 250 micrograms of LSD to create an “overwhelming and transcendent experience” to then process in integrative therapy after the drug facilitated session. Currently it is unknown which psychotherapy approach is more successful than the other due to lack of further studies. (4). Educational Objective: The purpose of this study is to investigate and review literature on the usage of psychedelics in clinical practice.

**Saturday May 04**

### **Vaping Use Disorder Among Medical Trainees: A Secondary Analysis of the Global Vaping Study**

*Fernanda Gushken; Ana Bresser Pereira Tokeshi; Fernando Bruno; Luiza Helena Degani-Costa; Thiago Fidalgo*

Background: Despite the increasing evidence of harm caused by vaping e-cigarettes have gained popularity among young individuals. Male gender higher family income mood disorders tobacco smoking marijuana use and binge drinking have been found to be risk factors for e-cigarette use independent of age. However little is known about how these factors relate to e-cigarette use disorders. Aim: We aimed to investigate the potential association between e-cigarette use disorders and mental health conditions including anxiety depression and substance use disorder among medical trainees. Methods: The Global Vaping Study was a multinational survey conducted between October 2020 and November 2021 enrolling medical students residents and fellows in Brazil (BR) the United States (US) and India

(IN). The web-based survey comprised 72 questions on sociodemographics and mental health vaping and hookah use and knowledge and attitudes towards these alternative tobacco products. For this secondary analysis we focused on responses from current e-cigarette users in the US and BR. The primary outcome variable was a positive screening for vaping use disorder as assessed by the Hooked on Vaping questionnaire. A mixed effects model was employed to explore the association between mental health disorders and substance use disorder with e-cigarette use disorder. Fixed effects included age income and gender while random effects were considered for country variations. Results: Out of 7526 respondents in BR and US there were 946 current e-cigarette users (BR=612 US=334). Among those 57.8% reported symptoms of e-cigarette use disorder. Notably depressive symptoms assessed by PHQ-2 ( $\beta=0.07$  CI=0.006-0.138) and monthly binge drinking ( $\beta=0.03$  CI=0.010-0.065) were associated with vaping use disorder while no association was seen with anxiety symptoms assessed by GAD-2 marijuana and tobacco smoking in the previous month. Higher family income ( $\beta=0.045$  CI=0.009-0.080) and male gender ( $\beta=0.09$  CI=0.043-0.155) were also significantly associated with vaping use disorder. Additionally country-specific random effects were found to be significant ( $p<0.01$ ). Conclusion: The prevalence of e-cigarette use and use related disorders among medical trainees is high and frequently associated with mental health disorders. Identifying and treating depression and alcohol use disorder among medical trainees could be crucial not only to prevent untreated individuals from turning to vaping as a means of coping with mental health issues but also to achieve higher success rates for those willing to quit vaping.

Saturday May 04

### **A Phase 2 Multicenter Randomized Double-Blind Parallel Dose-Finding Trial of MM-120 (Lysergide D-Tartrate) for Treatment of Anxiety Symptoms**

*Daniel Karlin; Paula Jacobsen*

Background: Generalized Anxiety Disorder (GAD) is among the most common psychiatric disorders. Despite this there has been little progress in the development of effective and well-tolerated therapies. GAD is a chronic disorder characterized by excessive worry and persistent general apprehensiveness which can manifest in a wide range of psychiatric and somatic symptoms. Current treatments are often ineffective or have intolerable side effects. We evaluated the safety tolerability and efficacy of 4 doses of MM-120 (D-lysergic acid diethylamide D-tartrate) in patients with GAD. Methods: In this Phase 2b multicenter randomized double-blind placebo-controlled study adults aged 18 to 74 years with GAD and moderate to severe anxiety (Hamilton Anxiety Rating Scale [HAM-A] score  $\geq 20$ ) were enrolled. A total of 198 patients were randomized 1:1:1:1 to receive a single administration of MM-120 at a dose of 25 $\mu$ g (n=39) 50 $\mu$ g (n=40) 100 $\mu$ g (n=40) or 200 $\mu$ g (n=40) or placebo (n=39). The primary and key secondary objectives were to assess the dose-response relationship of MM-120 by evaluating the change in HAM-A total score from baseline to weeks 4 and 8 respectively. Secondary endpoints included improvements in functioning and quality of life; safety assessments were also performed. Results: Both 100 $\mu$ g and 200 $\mu$ g doses demonstrated clinically and statistically significant efficacy. The 100 $\mu$ g dose achieved the highest level of clinical activity with a statistically significant



reduction of 7.6 points in HAM-A total score compared to placebo at week 4 (-21.34 MM-120 vs -13.75 placebo;  $P=0.0004$ ). Moreover clinical activity was evident as early as day 2 after treatment as measured by the Clinical Global Impressions–Severity (CGI-S) scale. At day 2 CGI-S scores improved by 1.8 points with MM-120 100 $\mu$ g vs 0.7 points with placebo ( $P=0.0001$ ); this improvement persisted through week 4 ( $P<0.01$ ). At week 4 77.5% of subjects treated with MM-120 100 $\mu$ g showed a clinical response with  $\geq 50\%$  improvement in HAM-A vs 30.77% with placebo. Further 50% of participants treated with 100 $\mu$ g achieved remission (HAM-A  $\leq 7$ ) vs 17.95% with placebo. There was also a significant reduction in the Montgomery-Asberg Depression Rating Scale total score with MM-120 100 $\mu$ g versus placebo (-5.73;  $P<0.05$ ). Treatment-emergent adverse events (TEAEs) occurred in 97.5% of participants in the MM-120 100 $\mu$ g group vs 56.4% in placebo. Most events were mild to moderate occurred on dosing day and were consistent with the expected acute effects of MM-120. The most common TEAEs ( $\geq 10\%$  incidence) in the MM-120 100 $\mu$ g group were illusion hallucination euphoric mood anxiety abnormal thinking headache nausea fatigue mydriasis increased blood pressure and hyperhidrosis. No deaths were reported in the study. Conclusion: These findings suggest a rapid robust and durable clinical response to MM-120 in patients with GAD. Mind Medicine Inc supported this study.

Saturday May 04

### **Alterations in white matter structural connectivity among Pediatric patients with Tic disorder**

*DONG HYUN CHA; Young Eun Mok; Moonsoo Lee; SuHyuk Chi; Jeong-Kyung Ko*

Introduction: Tic disorder with onset in childhood/adolescence is hypothesized to involve disinhibition within the cortical-striatal-thalamic-cortical (CSTC) circuit including the limbic system. Prior diffusion tensor imaging (DTI) studies in tic disorder yielded inconsistent results. This study using tract-based spatial statistics (TBSS) and atlas-based region of interest (ROI) analysis investigates microstructural changes in pediatric patients with tic disorder without psychiatric medication history correlating with the Yale Global Tic Severity Scale (YGTSS). Methods: Pediatric patients ( $n=21$ ) and controls ( $n=27$ ) from Korea University Guro Hospital underwent psychiatric interviews psychological tests and MRI (structural and diffusion imaging). Fractional anisotropy (FA) Axial diffusivity (AD) Radial diffusivity (RD) and Mean diffusivity (MD) were calculated from the DTI scan. The Most-Representative-Subject TBSS (RS-TBSS) applied to FA images identified microstructural changes. Atlas-based ROI analysis in the Statistical Package for the Social Sciences (SPSS) examined correlations with clinical measures. Results: 1) TBSS showed no FA and AD differences between groups. RD and MD increased predominantly on the right side in patients. 2) ROI analysis using JHU-White-matter-labels atlas revealed differences in deep white matter diffusion indices associated with the CSTC circuit. 3) YGTSS analysis confirmed significant correlations with diffusion indices; tic severity correlated with lower FA higher AD and RD. Conclusions: Patients with tic disorder and no medication history showed no significant differences in FA and AD but exhibited increased RD and MD particularly on the right side. ROI analysis supported these findings. Limitations include a small sample size; larger studies may detect significant white matter integrity differences.

Prospective studies could reveal post-treatment white matter changes aiding diagnosis and treatment outcome prediction in tic disorder.

Saturday May 04

### **An umbrella review of antipsychotic agents in anxiety disorders**

*Amir Garakani M.D.; Frank Buono; Rafael Freire MD PhD; Mona Salehi*

First-generation (FGAs) and second-generation antipsychotics (SGAs) have been used off-label for anxiety and while there have been systematic reviews and meta-analyses on the use of antipsychotics in anxiety disorders most of which focused on SGAs. The specific aims of this umbrella review are to: (1) Evaluate the evidence of efficacy of FGAs and SGAs in anxiety disorders as an adjunctive treatment to traditional antidepressant treatments and other non-antipsychotic medications; (2) Compare monotherapy with antipsychotics to first-line treatments for anxiety disorders in terms of effectiveness risks and side effects. The review protocol is registered on PROSPERO. (CRD42021237436). An initial search was undertaken to identify systematic reviews and meta-analyses from inception until 2020 with an updated search completed August 2021 and January 2023. The searches were conducted in PubMed MEDLINE (Ovid) EMBASE (Ovid) APA PsycInfo (Ovid) CINAHL Complete (EBSCOhost) and the Cochrane Library through hand searches of references of included articles. Review quality was measured using the AMSTAR-2 (A Measurement Tool to Assess Systematic Reviews) scale. The original and updated searches yielded 1796 and 3744 articles respectively of which 45 were eligible. After final review 25 systematic reviews and meta-

analyses were included in the analysis. Most of the systematic reviews and meta-analyses were deemed low-quality through AMSTAR-2 with only one review being deemed high-quality. In evaluating the monotherapies with antipsychotics compared to first-line treatments for anxiety disorder there was insufficient evidence due to experimental designs. There was limited evidence suggesting efficacy of antipsychotic agents in anxiety disorders other than quetiapine in generalized anxiety disorder (GAD) and monotherapy or augmentation with olanzapine in meta-analyses. This umbrella review indicates a lack of high-quality studies of antipsychotics in anxiety disorders outside of the use of quetiapine in GAD. Although potentially effective for anxiety FGAs and SGAs may have risks and side effects that outweigh their efficacy. Further long-term and larger-scale studies of antipsychotics in anxiety are needed.

Saturday May 04

### **Beyond Stillness: Excited Catatonia Unveiled in Children and Adolescents**

*Chaden Nouredine M.D.; Natalie Burlant M.D.*

Objective: Excited catatonia is a subtype of catatonia that is distinguished by agitation emotional lability poor sleep and altered mental status additionally to the more classical presentation of catatonia. This disorder often mimics the presentation of psychosis or mania making it difficult to treat at times. Although the topic of excited catatonia has received a recent increase in interest there is still a limited body of literature discussing this disorder among the general population. This study aims to examine the existing literature on the presentation of excited catatonia in children

and adolescents and to identify the most effective treatment modalities for excited catatonia in the child and adolescent population while contrasting them with those used in adults. Methods: Google Scholar and PubMed were explored using search terms including “excited catatonia” “adolescent” “child” “youth” and “young adult” in various permutations. Seven articles were included in this analysis. Results: Four of seven articles specifically addressed or mentioned excited catatonia in the child and adolescent patient population. The remaining studies mention other forms of catatonia or are not specific to the pediatric and young adult populations. The four articles were case reports. A report of two cases of Anti-N-methyl-D-aspartate receptor encephalitis associated with excited catatonia were initially treated with immunological therapy and high doses of lorazepam. However as the catatonia worsened and lorazepam showed limited improvement both cases were effectively treated with electroconvulsive therapy (ECT). A separate report highlights symptom resolutions with ECT for patients with autism spectrum disorder while a second one reports success with low-dose lorazepam for a 16-year-old with schizoaffective disorder. Another case shows how a rapid diagnosis and treatment with high-dose intravenous lorazepam can help prevent further sequelae. Conclusion: The current literature discussing excited catatonia among the pediatric and young adult population is minimal and mainly consists of case reports reflecting the need for additional research in this population. The current guidelines for treating excited catatonia in children and adolescents are extracted from adult guidelines; however the underlying disorders do differ.

Saturday May 04

### **Children and Parents' ADHD Symptom Burden; The Dyadic Effect of Externalizing Behaviors on Inattention**

*Rachel Sankin D.O.; Eden Crowsey; Kellcee Jacklin; Shirley Alleyne M.B.B.S.*

Background: Attention Deficit Hyperactivity Disorder (ADHD) is the most common neurodevelopmental disorder of childhood characterized by disabling impairment in the ability to attend regulate activity levels and impulsivity. Untreated ADHD exacts an immeasurable emotional social and financial toll on the individual families and society and is associated with academic failure addictions antisocial behaviors and poor physical health. While genetic factors play a pivotal role in ADHD environmental influences particularly during the prenatal and postnatal periods contribute significantly to its manifestation. This study draws on data from the Adolescent Brain Cognitive Development (ABCD) study to explore the impact of externalizing behaviors including aggression exhibited by both parents and children on the expression of ADHD symptoms specifically inattention. Methods: A secondary analysis of data from 11876 parent-child dyads (23752) individuals within the ABCD study was conducted. Externalizing symptoms in parents and children as well as inattention were measured using the Adult Self Report 18-59 Syndrome Scale Score and the Child Behavioral Checklist 6-18 Profile Syndrome Scale respectively. Linear mixed models were employed to investigate the dyadic effects of parental and child aggression and rule-breaking behaviors on the severity of inattention. Descriptive statistics assessed correlations between parent and child responses. Results: The participants included children aged 10 (range 9-11) years and parents aged 40 (range 23-80)

years. The study found that symptoms of inattention in the child increased alongside symptoms of aggression ( $b=.409$   $p<.001$ ) and rule-breaking ( $b=.213$   $P<0.001$ ). Additionally symptoms of children's inattention worsened with parental inattention ( $b=.174$   $p<.001$ ). Parental rule-breaking ( $p=.144$ ) parental aggression ( $p=.946$ ) nor parent and child age ( $p=.693$  and  $p=.375$ ) significantly influenced child inattention. Dyadic analyses revealed that symptoms of parents' inattention intensified with worsening inattention in their children ( $b=.175$   $p<0.001$ ) but improved when their child's rule-breaking increased ( $b=-0.55$   $p<.001$ ). The child's age did not significantly impact symptoms of parent inattention ( $p=.532$ ) however parent inattention increased as parent age increased ( $b=0.24$   $p=.018$ ). Conclusion: This study underscores the complex interplay of genetic and environmental factors in the expression of ADHD highlighting the significance of the dyadic effect of externalizing behaviors in both parents and children as contributors to inattention in children and their parents. Understanding these dynamics can target interventions such as parent-skills training school involvement and behavioral management programs to mitigate the impact of ADHD on individuals and society.

Saturday May 04

### **Comparison of No-Show Rates for Telehealth and In-person visits in an outpatient Behavioral Health Clinic**

*Ibrahim Alsherief; Romi Shah; Sara Gabeyre M.D.; Evaristo Akerele M.D.*

Objective: Most of the research conducted to date has focused on analyzing the impact of transitioning from in-person to telehealth visits on patient no-show rates. This study aimed to assess the impact of transitioning

from remote-only to in-person clinic visits on the number of patient no-shows in the outpatient behavioral health department. The investigation focused on comparing the percentage of no-shows before the commencement of in-person visits and after the introduction of in-person appointments. Methods: We conducted a retrospective analysis of appointment data from the outpatient behavioral health clinic. Monthly data for 10 months were gathered to analyze the number of no-shows completed visits and overall scheduled patients during two distinct periods: the initial phase with only remote appointments and the subsequent phase incorporating in-person visits. The study examined the percentage of no-shows in each period to discern any changes in patient attendance patterns. Statistical analysis is currently underway to determine if there is a significant difference in the no-show rates between telehealth and in-person visits. The results of this analysis are pending and will be included in the final report. Results: Prior to the introduction of in-person visits the no-show rate stood at 10.25%. Following the opening of the clinic for in-person appointments the no-show rate increased to 15.4%. This shift was accompanied by a noticeable rise in the average number of no-shows per month indicative of a potential correlation between the change in appointment modality and patient attendance. Conclusion: The transition from remote-only to in-person clinic visits resulted in a significant increase in the number of patient no-shows. The observed shift from 10.25% to 15.4% in no-show rates highlights the importance of considering the impact of changes in appointment modalities on patient attendance. These findings emphasize the need for careful planning and patient engagement strategies when introducing or

modifying in-person clinic visits ensuring optimal accessibility and patient adherence to scheduled appointments.

Saturday May 04

### **Differentiation between suicide attempt and suicidal ideation in patients with major depressive disorder using cortical functional network**

*Sehoon Shim; Ji Sun Kim; Minwoo Hyun*

**Aim** Studies exploring the neurophysiology of suicide are scarce and the neuropathology of related suicide is poorly understood. This study investigated source-level cortical functional networks using resting-state electroencephalography (EEG) in drug-naive patients with suicide attempt and suicide ideation. **Methods** EEG was recorded in 55 patients with suicide attempt and 54 patients with suicide ideation. Graph theory-based source-level weighted functional networks were assessed via strength clustering coefficient (CC) and path length (PL) in seven frequency bands. This study applied machine learning to differentiate the two groups using source-level network features. **Results** At the global level patients with suicide attempt showed lower strength and CC and higher PL in the high alpha band compared to those with suicide ideation. At the nodal level compared to suicide ideation patients with suicide attempt showed lower high alpha band nodal CCs in most of brain regions. The best classification performance for suicide attempt and suicide ideation showed an accuracy of 73.39% a sensitivity of 76.36% and a specificity of 70.37% based on high alpha band network features. **Conclusions** Our findings suggest that abnormal high alpha band functional network reflects the pathophysiological characteristics of suicide

and might serve clinically as a neuromarker of suicide.

Saturday May 04

### **Endogenous phenotype of diagnostic transition from major depressive disorder to bipolar disorder: a prospective cohort study**

*Sehoon Shim; Ji Sun Kim; Minwoo Hyun*

**Aim** This study aims to comparing bipolar disorder (BD) and major depressive disorder (MDD) to understand neuropathology of these disorders. This study investigated sensor-level electroencephalography (EEG) power and related source-level cortical activity using resting-state EEG in patients with MDD and BD. **Methods** A total of 68 patients with MDD were enrolled and recorded EEG. Among patients with MDD 17 patients with MDD converted to BD during the study periods. Clinical symptoms and EEG measures were compared between two groups. This study applied machine learning to differentiate the two groups using sensor and source-level features. **Results** At the sensor level patients with BD showed higher power of AF3 channel in the theta beta band ( $p=0.011$ ) and FC5 channel in the low alpha band ( $p=0.014$ ) compared to MDD. At the source-level compared to MDD patients with BD showed higher activity in the right anterior cingulate ( $p=0.011$ ) and left parahippocampal gyrus ( $p=0.035$ ). The best classification performance for MDD and BD showed an accuracy of 80.88% a sensitivity of 76.47% and a specificity of 82.35% based on theta and low alpha band power and activity features. **Conclusions** Our findings might suggest different theta and low alpha band activity between patients with BD and MDD might serve clinically as a candidate



neuromarker for differentiating two distinct mood disorders.

Saturday May 04

### **Exercise in adolescence prevents Cannabis use in adulthood: Findings from the National Longitudinal Study of Adolescent Health in the United States**

*Whitney Cordoba MD MPH; Luis Mestre; Maria Parker*

**Introduction** The prevalence of cannabis use has increased over the last decade among adolescents in the US compared to alcohol and tobacco use. Since aerobic exercise reduces the risk of chronic mental diseases and its decreases when transitioning from adolescence to adulthood we aimed to examine the association between aerobic exercise in adolescence and cannabis use in adulthood. **Methods** Data from 1860 adolescents who participated in Waves I to V of the National Longitudinal Study of Adolescent Health (Add Health) was analyzed from 1995-2018. We included US-based individuals who were in grades 7-12 and observed them for 24 years. Weighted mixed-effects models estimated the association between aerobic exercise in Wave I (1995 baseline) and cannabis use through adulthood from Waves I to V (2018 adulthood) adjusting for sociodemographic characteristics and baseline substance use. **Results** Overall 1274/1860 (weighted 68.3%) individuals exercised at baseline. Adolescents were on average 15 years old 49% were female predominantly Non-Hispanic White (71%) and lived in a high-income household (38%). Almost 16% used cigarettes and 46% used alcohol. Aerobic exercise in adolescence was significantly associated with cannabis use in adulthood: the prevalence of cannabis use in adulthood

among adolescents who were inactive was 1.78 times the prevalence of adolescents who were active (APR=1.78 95% CI= 1.74 1.82; p<0.01).? **Conclusion** Aerobic Exercise in adolescence was negatively associated with cannabis use in adulthood. Future studies might randomize exercise and explore group versus individual effects of exercise in cannabis use. The findings from this study highlight the importance of promoting the adoption of healthy behaviors at a young age particularly aerobic exercise and of addressing its determinants in school settings to prevent cannabis use in adulthood. This study was not funded and the authors do not report any conflict of interests. **Keywords:** Cannabis Marijuana Use Exercise Sports Adolescents.

Saturday May 04

### **Genetic Variants Associated with Iloperidone Response in Acute and Mixed Mania Associated with Bipolar I Disorder**

*Haimeng Bai; Sandra Smieszek PhD; Rosarelis Torres PhD; Mihael Polymeropoulos MD*

Bipolar I disorder is characterized by episodes of manic and hypomanic activity and it has one of the highest rates of serious impairment among mood disorders. Iloperidone is a second-generation antipsychotic approved by the FDA that has anti-manic effects. Here we report genetic associations on iloperidone efficacy for treatment of bipolar manic episodes from a phase 3 randomized placebo-controlled study. Whole genome sequencing was conducted with 30× read depth using whole blood samples obtained from the study subjects. The efficacy of iloperidone was evaluated using the Young Mania Rating Scale (YMRS) -calculated as the change in YMRS

measurement from baseline to the end of study (EOS). First we found the omega3 total levels are associated with decreased YMRS at baseline ( $b=-5.34\pm 1.91$   $p=0.006$ ) which is concordant with previous findings and indicates the validity of the data. In order to investigate the genetic factors that impacts the iloperidone efficacy we then conducted GWAS in the Iloperidone group ( $n=167$ ) using linear regression on YMRS change with adjustment of AGE SEX BMI and the first 2 PCs. Multiple variants were found to be associated with YMRS change at  $1e-5$  level. One of the top hits was RELN ( $rs55837573$   $b=-4.61\pm 0.94$   $p=2.48e-6$ ). RELN encodes a secretory glycoprotein critical for brain development and synaptic plasticity. Lower Reelin protein levels were reported in bipolar disorder patient brains. NAV2 ( $rs1118464$   $b=-4.15\pm 0.89$   $p=6.98e-6$ ) is a neuron navigator gene and may play a role in cell growth and migration. FAT3 ( $rs76876307$   $b=15.44\pm 3.28$   $p=5.27e-6$ ) is an atypical cadherin that is predicted to be involved in cell-cell adhesion and act upstream of dendrite development and neuron migration. SHROOM3 ( $rs62300864$   $b=12.08\pm 2.43$   $p=1.64e-6$ ) may play a role in regulating cell shapes. These variants are not associated with YMRS at baseline which suggests potential drug mechanisms. We then defined the drug responders as subjects that having EOS YMRS decreased  $\geq 50\%$  compared to baseline. GWAS with logistic regression were conducted and the association of RELN ( $rs55837573$ ) was robustly detected in this analysis. Over representation analysis in disease gene sets showed bipolar I disorder was the strongest result ( $p=1.12e-5$   $FDR=0.044$ ). This was driven by the contribution of variants within BCL2 EGR4 and GADL1. In summary we report genetic factors associated with the efficacy of iloperidone in treating bipolar manic

episodes. This result suggests that the treatment with iloperidone potentially leads to improvement as captured by YMRS through acting on the identified gene pathways setting a foundation for further investigation.

Saturday May 04

### **Identifying Clinical Predictors for Brain FDG-PET Imaging in Patients with Catatonia: A Case-Control Study**

*Laura Duque M.D.; Mohammad Ghafouri; Edith Liliana Patarroyo Rodriguez M.D.; Balwinder Singh M.D. M.S.*

Background: Catatonia is a distinct neuropsychiatric syndrome characterized by motor affective and behavioral dysfunction. Research suggests that catatonia exhibits distinctive brain metabolic patterns in functional neuroimaging. There is however limited research investigating the connections between the clinical characteristics of catatonia and current clinical practices concerning ordering functional neuroimaging. Consequently we investigated the links between clinical factors in catatonia and ordering of 18F-fluorodeoxyglucose positron emission tomography (FDG-PET) in clinical settings. Methods: This study was approved by Mayo Clinic Institutional Review Board. We retrospectively identified adult patients hospitalized at Mayo Clinic in Rochester Minnesota between 2001 and 2021 who were diagnosed with catatonia and evaluated with FDG-PET and matched them with controls by age and gender who were diagnosed with catatonia but did not undergo FDG-PET. We conducted a retrospective case-control exploratory analysis using univariate followed by multivariate logistic regression. Individual results were considered statistically significant at  $p \leq 0.05$ . Results: A total of 9 of

364 hospitalized patients with a clinical diagnosis of catatonia were assessed with FDG-PET (mean age 57.7 years 44% female). Brain FDG-PET was ordered most frequently for altered mental status of unknown etiology (n=6) and was most frequently ordered by the neurology service (n=6). Catatonia patients who had a FDG-PET were matched with 38 controls from the same cohort of patients (mean age 58.9 years 58% female). In univariate analyses schizophrenia spectrum illness diagnosis was negatively associated with the ordering of a brain FDG-PET ( $p=0.024$ ). Multivariate logistic regression analysis that adjusted for age and gender revealed that schizophrenia spectrum illness patients had a lower probability of having a brain FDG-PET performed than those without this illness ( $E0.054$   $p=0.017$  CI 0.002-0.422). Discussion: The reason for the reduced likelihood of ordering a brain FDG-PET for patients with schizophrenia spectrum illness is unclear. The heterogeneity in workup practices for catatonia may contribute to inconsistencies in the ordering of brain FDG-PET scans. Although bipolar spectrum illness is the most common psychiatric cause of catatonia other medical specialties outside of psychiatry may still erroneously associate catatonia with schizophrenia potentially leading to skewed ordering practices. Conclusion: The results of our case-control study suggest that schizophrenia spectrum illness negatively and independently predicts having a brain FDG-PET done in patients with catatonia. There is a need for further rigorous and well-powered studies to further understand the relationship between clinical characteristics and functional alterations in catatonia. These studies may provide insight into the possible benefits and indications for brain FDG-PET scans in this population.

Saturday May 04

### **Information sharing between and within autistic and non-autistic people**

*Catherine Crompton; Noah Sasson;*  
*UNIVERSITY OF EDINBURGH*

Information sharing depends on social communication skills. Deficits in social communication skills are a core diagnostic criterion for Autism. It may therefore be expected that autistic people will be less successful at sharing information especially with one another. However recent research has found that autistic social communication difficulties may be context dependent rather than absolute and reduced when interacting with other autistic people. It may be the mismatch between autistic and non-autistic people social communication deficits that are commonly described that reduces information transfer accuracy. We have investigated this in two studies. In Study 1 ( $n = 72$ ) we used a diffusion chain methodology to examine information sharing between (i) autistic pairs (ii) non-autistic pairs and (iii) mixed autistic-with-non-autistic pairs. A researcher verbally recounted a story to initial participants which they shared with a second participant who shared it with a third participant and so on within a "diffusion chain" of eight participants. Regression analysis indicated a steeper decline in information transfer for mixed chains ( $b = -6.04$  standard error (SE)  $= 1.32$   $p < 0.0001$ ) while autistic chains' information transfer did not differ to that of chains of non-autistic people ( $b = 0.13$  SE  $= 1.32$   $p = 0.93$ ). These results indicate that autistic people can share information with one another as effectively as non-autistic people. Information sharing is selectively poorer within mixed social contexts of autistic and non-autistic people. Study 2 is an international multi-site replication and

extension study using the same methodology as Study 1 with a larger sample (n = 324). Data collection is complete. Analyses are pre-registered and underway (<https://osf.io/us9c7/>) and will be completed and included in this presentation. These analyses will allow us to examine whether this effect is replicated in a new and larger sample. We will explore additional factors that may impact information sharing for autistic and non-autistic people including whether informing participants of the diagnostic status of their communication partner affects information transfer and whether there are differences in the sharing of fictional and factual information. In conclusion our findings suggest that autistic information sharing abilities vary depending on the autism status of their interaction partner and that more information is accurately shared when autistic people are interacting with other autistic people. The results are a direct challenge to the diagnostic criterion that autistic people lack the social skills for successful interaction. Findings have an impact on our understanding of social communication in autism and have direct relevance for clinical practice.

Saturday May 04

### **Longitudinal changes in regional brain volumes in Type A alcohol-dependent patients: a 7-year MRI follow-up study.**

*catherine martelli; catherine martelli*

Background: Although there are numerous reports of neuropsychological and neuroimaging investigations in alcohol dependence longitudinal studies are scarce. This work investigated the evolution of magnetic resonance imaging in brain volumes over a long follow-up period (7 years)

in Type A alcohol-dependent patients i.e. without psychiatric or somatic comorbidity and whose addiction had started late. In line with the literature we hypothesized that long-term abstinence would lead to an at least partial recovery of the prefrontal cortex cingulate cortex and of white matter (WM) volume reductions. We investigated the long-term changes in grey matter (GM) and WM regional volumes by comparing longitudinally the followed-up subgroups of abstainers relapsers and controls. Methods: 26 patients and 24 healthy controls were assessed at baseline using structural MRI and voxel-based morphometry among which 17 patients and 6 controls were re-evaluated 7 years later. At follow-up three groups were compared: abstainers (n = 11 more than 2 years of abstinence) relapsers (n= 6 less than 2 years of abstinence) and controls (n= 6). Results: The longitudinal analysis of neuroimages in which relapsers were compared to abstainers demonstrated the recovery of initial GM volumes in the bilateral middle and inferior frontal cortex as well as the bilateral middle cingulate cortex whereas no recovery was found in sub-cortical regions. Moreover we found a WM recovery in the corpus callosum and in anterior and superior regions between the frontal cortex and the striatum. Discussion: The results of brain volumes analyses in abstainers confirm previous findings in the literature that examined shorter time-periods (generally up to 2 years). These results support the crucial role of abstinence in fronto-limbic GM and WM volumes recovery in alcohol-dependent type A patients.

Saturday May 04

### **Metabolic syndrome in adults with autistic traits: associated psychological**

## **behavioural and biological factors in females and males**

*Eva Warreman*

**Background:** While cardiovascular diseases are highly prevalent and an important cause of mortality in autistic adults knowledge on their increased cardiovascular risk is limited. Furthermore it is relevant to investigate cardiovascular risk in the general population in order to take those adults with autistic traits specifically females with a late or missed autism spectrum disorder (ASD) diagnosis into account by analysing them on the presence of autistic traits rather than only on the presence of an ASD diagnosis. Hence this study aimed to investigate the prevalence of MetS and which psychological behavioural and physical factors are associated with MetS in female and male adults with autistic traits.

**Methods:** In total 17705 adults from the Dutch Lifelines Cohort were included and categorized using Autism Spectrum Quotient-10 sum-scores. The quartiles with highest (HQ-traits-group females: n=2635; males: n=1803) and lowest levels of autistic traits (LQ-traits-group females: n=2635; males: n=1803) were analysed. Using multivariable logistic regression the associations between MetS and (self-reported and interviewed) psychological behavioural and physically measured factors in these stratified groups were investigated.

**Results:** Among females MetS was more common in the HQ-traits-group than in the LQ-traits-group (10.0% versus 7.5%  $p < 0.01$ ) while this was not the case among males (HQ-traits-group 13.8% versus LQ-traits-group 13.1%  $p = 0.52$ ). In both the female and male HQ-traits-group the presence of MetS was associated with poorer self-reported health less daily physical activity and altered leukocyte counts.

**Conclusion:** In females with higher levels of autistic traits the prevalence of MetS is higher

than in females with lower levels of autistic traits. Earlier and adequate cardiovascular preventive measures are indicated for adults with relatively more autistic traits. To decrease morbidity and mortality of adults with high levels of autistic traits future research should focus on implementation of cardiovascular prevention for adults with autistic traits. This work the Lifelines initiative was supported by subsidy from the Dutch Ministry of Health Welfare and Sport the Dutch Ministry of Economic Affairs the University Medical Centre Groningen and the Provinces in the North of the Netherlands (Drenthe Friesland Groningen). Our study was supported by a grant from the Netherlands Organisation for Health Research and Development (NWO-ZonMw) (grant number 639003101). The IADB.nl and the PharmLines Initiative are funded by the University of Groningen Groningen Research Institute of Pharmacy.

Saturday May 04

## **Mortality from suicide and unnatural causes among individuals with bipolar disorder: a meta-analysis**

*Beny Lafer M.D.; Taís Biazus*

**OBJECTIVE** Bipolar disorder (BD) is associated with premature mortality. Compared to the general population BD subjects are at greater risk of dying by unnatural causes including suicide as the primary cause (other unnatural causes are mainly homicide and accidents). We performed a meta-analysis of present data regarding unnatural causes and suicide in BD.

**METHODOLOGY** Following PRISMA guidelines a PROSPERO protocol was registered and studies were then retrieved from PubMed Embase Web of Science and PsycINFO. Independent researchers



screened papers and extracted data using Covidence. Statistical analysis was conducted using Comprehensive Meta-Analysis V3. Main outcome was age and sex standardized mortality ratio (SMR) by suicide and unnatural causes. Heterogeneity (Q- test and I<sup>2</sup>) and publication bias (Egger's test) were assessed in all analysis. **RESULTS** After screening 2334 papers 25 studies were included in suicide and 17 studies were included in unnatural causes analysis. BD population for suicide analysis was 180210 (47568 males and 71175 females) and for unnatural causes the population was 349744 (103783 males and 138050 females). A higher SMR was observed for suicide and unnatural causes in BD when compared to the general population. RR for suicide was 11.69 (95%CI 9.23-14.81 I<sup>2</sup> 94% k=25). When stratified by gender suicide SMR was higher in women (17.53 95%CI 10.76-28.54 I<sup>2</sup> 97% k=11) than in men (14.02 95%CI 11.16- 17.60 I<sup>2</sup> 87% k=11). The SMR total for unnatural causes was 7.29 (95%CI 6.42-8.28 I<sup>2</sup> 94% k=17). For males the RR for unnatural causes was 6.69 (95%CI 5.85- 7.66 I<sup>2</sup> 87% k=10) and for females the RR was 9.33 (95%CI 8.07- 10.78 I<sup>2</sup> 86% k=11). Meta-regression showed no influence in results and both Egger's test and forest plots revealed no publication bias. **CONCLUSION** As supported by the data collected in agreement with previous literature BD subjects presented elevated mortality from unnatural causes being suicide the most concerning as it is the leading cause of preventable death. Our findings lead to an understanding that an effort to prevent suicide is necessary mainly in the high-risk BD. Clinicians (individual level) and public health policies (populational level) should address risk factors for suicide.

Saturday May 04

## **Parcel-guided TMS: virtual and online neuronavigation**

*Dennis Truong PhD*

Transcranial magnetic stimulation (TMS) is an FDA-approved treatment for treatment-resistant major depression (TRD). However at present the approach is only partially effective. Over recent years there has been increasing realization that TMS for anhedonic-like symptoms of major depressive disorder (MDD) is most effective when targeted at the region of left dorsolateral prefrontal cortex (L-DLPFC) that is maximally anti-correlated with subgenual anterior cingulate cortex (sgACC) as determined using resting-state functional connectivity MRI (rsfcfMRI). Ideal approaches for identifying this location for individual subjects however still depend on processing pipelines that are not accessible to the TMS treatment community. In general 3D brain reconstructions can be analyzed using either traditional volumetric approaches or more recently developed surface-based approaches like those developed as part of the human connectome project (HCP). In volumetric approaches structural and functional approaches have both been implemented to identify volumetric regions of interest. In the surface-based HCP MMP1.0 approach structural and functional data are merged to identify functionally discrete brain parcels across individuals. Here we developed a software package ("TMAPS") that will enable TMS researchers to obtain and use individualized L-DLPFC targets (surface- or volume-based with or without rsfcfMRI) for online or offline "virtual" neuronavigation. To test and develop the software package we acquired structural and functional MRIs on healthy subjects. Individualized parcels corresponding to L-DLPFC were extracted using structural scans or both structural and functional. The

resulting brain targets from volumetric surface and common heuristic approaches (5.5 cm rule Beam F3) were compared using online neuronavigation. Comparing surface-based parcellation to volumetric 5.5 cm rule and Beam F3 approaches initial results indicate average brain target differences of 5.79 18.15 11.39 mm respectively. This project will ultimately improve TMS targeting by enabling personalized MR-targeted TMS even within community treatment settings.2

Saturday May 04

### **Quality Matters: Neuroimaging Quality Score Associated with Brain Age in Psychiatric Patients & Healthy Controls**

*Natasha Topolski; Andrea Boscutti M.D.; Jair Soares M.D. Ph.D.*

**Aims** MRI scans are widely employed in psychiatric research to explore brain structure and function. However the prevalence of low-quality scans presents a significant challenge. While manual and automatic review techniques have emerged to assess quality most studies use binary decisions to retain or exclude scans potentially introducing sampling bias. Consequently a quality threshold is typically established resulting in a range of quality even within retained scans. This study investigates how scan quality affects a measure of biological aging called Brain Age. **Methods** 827 subjects including 360 bipolar disorder subjects 104 major depression subjects 59 siblings and 304 healthy controls were included in this analysis. Standardized Freesurfer pipelines were used to extract neuroanatomical features from T1-weighted MRI scans that would ultimately be used to calculate BrainAge from a model developed by the ENIGMA consortium. While many automated quality control techniques have

been studied the gold standard remains visual inspection. Given this this study utilized a visual inspection technique modified from the ENIGMA method where scans were rated on a scale from 1 to 5 based on overall image quality and segmentation quality with 1 being the best quality and 5 being the worst quality. Interrater reliability using 2 raters was calculated from a 120 scan subset. Analyses utilizing multiple regression models were conducted to assess the impact of the scan quality score (QS) on Brain Age. The dependent variable was Predicted Age Difference (PAD) which is the difference between Brain Age computed using Freesurfer-based neuroanatomical variables and chronological age. Other covariates included study site scanner manufacturer sex and diagnosis. **Results** The majority of scans (95.4%) rated as good quality with scores between 1 & 2 and 4.6% of scans were given a score greater than 2 indicating moderate to poor quality. Interrater reliability was 0.92. There were no significant differences in QS between diagnoses ( $F=1.119$   $p>0.05$ ). There were significant differences between sexes ( $F=6.191$   $p<0.05$ ). In the multiple regression model predicting PAD QS remained a significant predictor ( $\beta=1.9$   $p<0.0001^{***}$  each). **Conclusion** Our study shows that poor quality scans are associated with a larger brain age gap possibly due to underestimation of brain areas being interpreted as age-associated cortical loss. Our results reinforce the need for conducting quality control and show that stratifying quality can be a useful tool to characterize neuroimaging data and obtain results accounting for potential variability ultimately improving validity and interpretability.

Saturday May 04

## **Screening Adults in the US General Population to Detect Cases of Undiagnosed Generalized Anxiety Disorder**

*Daniel Karlin MD MA; Susan Suponcic PhD; Kathy Annunziata MA; Corklin Steinhart; Phong Duong PharmD*

Background: Recently the US Preventive Services Task Force (USPSTF) recommended screening adults for generalized anxiety disorder (GAD) in the primary care setting regardless of risk factors to avoid delays in diagnosis (Dx) and treatment (Tx). However estimates of undiagnosed GAD are outdated or based on small samples. Current population-level data are thus needed to inform clinical practice. This study quantified and characterized the US general adult population who screen positive and may have undiagnosed GAD. Methods: This cross-sectional retrospective study analyzed data from the 2022 National Health and Wellness Survey (NHWS) an annual online self-report survey of adults (aged ≥18); NHWS is representative of the age sex and race/ethnicity distribution in the US Census. All respondents completed the 7-Item GAD Questionnaire (GAD-7; 2-week recall period) and reported on GAD Dx and Tx. Undiagnosed GAD was defined as: no Dx + positive screen (GAD-7 score ≥10). Moderate and severe GAD symptoms were defined as: GAD-7 scores of 10-14 and ≥15 respectively. Undiagnosed adults were compared with controls (no Dx + no positive screen; Dx + no positive screen + no Tx use as remitted patients) and diagnosed adults (Dx + perceived anxiety; Dx + no perceived anxiety + positive screen or Tx use) on demographic and health characteristics. Prevalence estimates were reported as percentages with 95% confidence intervals (CIs); weighting was used to project results to the overall US adult population. Results: Among 75261 NHWS respondents 23.3%

(95% CI: 23.1-23.5%) had a positive screen (projects to ~59 million adults); of these 55.1% (95% CI: 54.7%-55.5%) and 44.9% (95% CI: 44.5%-45.3%) had moderate and severe GAD symptoms respectively. Of those who screened positive 83.1% (95% CI: 82.8%-83.4%) were undiagnosed (projects to ~49 million adults); 56.0% (95% CI: 55.5%-56.4%) and 44.0% (95% CI: 43.6%-44.5%) had moderate and severe GAD symptoms respectively. Undiagnosed adults (vs controls and diagnosed GAD) were younger (aged 37.5 years vs 51.8 and 42.1) and were more often male (53.9% vs 49.4% and 25.5%) current smoker (36.4% vs 15.0% and 22.9%) alcohol drinker (72.4% vs 64.1% and 65.1%) and employed (74.6% vs 55.4% and 49.8%) with income < \$75k (58.5% vs 45.7% and 25.6%) and were less likely to be White (50.8% vs. 64.5% and 69.3%) and obese/overweight (44.5% vs. 61.5% and 68.2%). Conclusion: Nearly a quarter of the US general adult population screened positive for GAD. A large majority 83.1% of those were undiagnosed (approximately 49 million adults) underscoring a substantial unmet need. Younger employed men were more often undiagnosed. Findings unequivocally support USPSTF recommendations to incorporate GAD screening into routine primary care to identify adults who require referral for Dx and Tx. The study was supported by MindMed Inc.

**Saturday May 04**

## **The Accuracy of Immediate Judgments of Cognitive Performance and Global Self-assessments of Psychosocial Functioning**

*Manya Saaraswat; Philip Harvey Ph.D.; Jean Henry*

Abstract Background Impaired awareness of illness is common across neuropsychiatric conditions including schizophrenia and

bipolar disorder. These impairments extend to challenges in the ability to assess cognitive and functional abilities with these impairments shown to be independent predictors of everyday disability. This study examined associations between the accuracy of immediate judgments of cognitive performance and global self-assessments of psychosocial functioning. These self-assessments were compared to evaluations generated by observers. **Methods** An abbreviated 5-test cognitive assessment was administered to 122 individuals with schizophrenia and 113 with bipolar disorder who were also asked to generate self-assessments of their performance at the conclusion of each test. Self-reports and informant ratings on scales measuring abilities in the domains of cognition social cognition and everyday functioning were also collected. **Results.** Both groups overestimated their momentary cognitive performance but in participants with bipolar disorder there was a significant correlation between cognitive test performance and immediate estimates of their task performance that shared 30% of the variance (vs. a nonsignificant 5 % in schizophrenia). In schizophrenia immediate judgements of cognitive test performance were only related to self-reported overall cognitive abilities not to observer ratings of cognitive abilities. In the participants with bipolar disorder immediate self-assessment of performance was correlated with both self-reports and observer ratings of cognitive abilities. **Conclusions.** Although momentary overestimation of performance was present across bipolar disorder and schizophrenia participants with bipolar disorder generated immediate judgments that correlated with both objective performance and with observer ratings of cognitive abilities in contrast to participants with schizophrenia.

These data are consistent with previous findings that momentary overestimation of performance in bipolar is not an indicator of complete lack of awareness of performance. Participants with schizophrenia show a more fundamental challenge which is related to accurate internally consistent self assessments that appear to be weakly linked to objective performance data and related more strongly to self-generated information. These two different response styles suggest different intervention strategies may be required to promote accuracy in judgment of capabilities and prediction of the likelihood of success in future activities.

Saturday May 04

### **The role of the epigenetic reader PHF21B on hippocampal neurotransmission and synaptic plasticity-related genes and social memory**

*Ma-Li Wong M.D.; Julio Licinio*

Histone post-translational modifications are regulated by PHD finger proteins serving as crucial epigenetic readers involved in chromatin-associated gene regulation. Among these proteins PHF21B (Plant homeodomain finger protein 21B) located in the genomic locus for Phelan-McDermid syndrome on chromosome 22q13.31 acts as a histone reader expressed in brain regions like the frontal cortex and hippocampus yet its specific roles in the brain remain unclear. This study explores the impact of Phf21b knockdown on behavior hippocampal function and transcriptome changes in mice aiming to elucidate potential pharmacological targets for social memory treatment strategies. Phf21b mutant mice with exon 4 deletion were generated using CRISPR/Cas9 technology. Cognitive and emotional behavioral tests whole-cell patch

clamp studies on long-term potentiation hippocampal transcriptome analysis and confirmation studies using qRT-PCR were conducted. Additional techniques included immunoblotting immunohistochemistry Golgi staining and histone peptide array experiments. Phf21b<sup>+/+</sup> mice expressing 60% less PHF21B than WT mice exhibited social memory deficits as indicated by alterations in the 5-trial social memory test (habituation trials were not decreased) and the 3-chamber social test (increased social novelty ( $P < 0.01$ )). These deficits were associated with a thinner cortex ( $P < 0.001$ ) reduced astrocytes ( $P < 0.0001$ ) and decreased neurogenesis (DCX<sup>+</sup> cells  $P < 0.001$ ). Furthermore PHF21B deficiency led to decreased synaptic protein expression impaired glutamatergic neurotransmission and modulation of genes involved in neurotransmission. PHF21B was found to regulate transcription through interactions with H3K9ac H3K9Me2 CREB and H3K36Me3. The findings indicate that PHF21B plays a crucial role as an upstream regulator of genes involved in synaptic plasticity. Targeting PHF21B may hold therapeutic potential for neurobehavioral disorders by modulating synaptic plasticity-related pathways.

Saturday May 04

### **Using Cultural Stress Theory to Understand and Explore Dating Violence in Hispanic Adolescents: Prevalence Risk Factors and Protective Factors**

*Tanvira Islam M.B.B.S.; Marta V. Colon LCSW*

Introduction: Rising dating violence is a social problem intersecting across cultures and ethnicities in the U.S. This multifactorial problem could have been exacerbated by the COVID pandemic (Krause et.al 2023) adverse social media (Oliveira et.al 2021) and

unemployment woes. Dating violence can take place not only in-person encounters but also in virtual online ones (Cava et.al 2020; CDC.gov). According to the CDC 2019 Youth Risk Behavior Survey (YRBS) 1 in 12 adolescents experience dating violence. We aim to understand dating violence through the lens of cultural stress theory using the CDC Youth Behavior Risk Survey 2021 data. Methods: The CDC's 2021 YRBS national survey data of adolescents was analyzed using the statistical software package SPSS version 27 (IBM Corp Armonk NY). Of particular interest was Hispanic ethnicity "dating violence and sexual coercion" and "physical dating violence" responses. In addition to descriptive statistics correlation and regression analyses were conducted to identify associations between the variables. Results: Of the 2021 YRBS respondents (N=17233) 48.3% identified as females and 51.7% as males. Twenty-six percent of the respondents were 15 years old with ages between 14-17 years old (93.6%). 48.3% were female 51.7% reported as male. A total of 9.7% of adolescents reported experiencing sexual dating violence while 8.5% of those surveyed reported physical dating violence one or more times during the 12 months. "Physical coercion" was statistically significant.  $p < .001$ . "Dating coercion" also showed a Linear-by-Linear Association (.032) as being significant but the Pearson Chi-Square (.125) was not statistically significant. "Dating violence" resulted in no significance in the Chi-Square (.551). Conclusion: This exploration adds to the existing literature and showcases the prevalence risk and protective factors against dating violence in Hispanic/Latino adolescents ages 13-19 in the U.S. It helps clinicians understand the type of dating violence involved and the individual trauma experienced by youth. As there are many interventions possible to



address such trauma better comprehension of the cause of the negative behavior allows treatment acuity instead of the 'one-size fits all' modality. Further understanding the risk factors can aid clinicians identify adolescents who need urgent preventive measures and knowledge of protective factors can facilitate implement additional resiliency /coping skills.

Saturday May 04

### **Violence Reduction in Patients with Comorbid Substance Use Disorder and Severe Mental Illness.**

*Sara Gabeyre M.D.; Muhammad Farooqi M.B.B.S.; Roger Maginley; Evaristo Akerele M.D.*

Background: Violence in inpatient units is a challenge. A number of studies have with limited success tried to address this issue. In this study we assessed violence on a 30 bed inpatient unit with primarily individuals suffering from severe mental illness and substance use disorders. We describe below a modality implemented on our inpatient unit. We assessed the impact of the introduction of a new protocol after multiple incidents of violence known as code gray on the frequency of violence and restraints on the unit. This study is significant for several reasons first there are not many studies looking at the use of this modality to reduce violence in an inpatient unit. Second this is one of the most challenging groups of patients for the management of violence. Methods: The Security Charge Officer was scheduled to visit the unit three times daily coinciding with BHU shift changes at 7:00 AM 3:00 PM and 11:00 PM. During these designated times the Security Charge Officer actively participated in the nursing shift report engaging in discussions concerning

challenging patients significant events previous shift's code gray incidents and the overall unit atmosphere. The degree of security presence within the unit was determined based on the information gathered during each shift. The unit's acuity level graded on a scale from 1 to 4 dictated the frequency of security officer rounds: Level 1 required two security officers to round every 2 hours Level 2 mandated rounds every hour by two security officers Level 3 necessitated rounds every 30 minutes by two security officers and Level 4 involved posting two security officers on the unit continuously. For Level 3 and Level 4 the Charge Officer attended intershift reports. This protocol was implemented in 2022 and was compared to the preceding year in terms of its impact on violence reduction. Results: The analysis of code gray incidents showed a total of 948 cases in 2022 representing an 11% decrease compared to 2021 (1064 cases). Within the BHU there was a significant decrease of 29% in code gray incidents (212 cases in 2022 vs. 300 cases in 2021). Statistical analysis via ANOVA  $p=0.0065$ . Restraint use also decreased by 28% overall (104 cases in 2022 vs. 145 cases in 2021) and by 48% within the BHU (17 cases in 2022 vs. 33 cases in 2021). Statistical analysis via Barlet test  $p=0.0005$ . Conclusion: The implementation of a security presence protocol in the BHU resulted in a significant decrease in code gray incidents and the use of restraints. These findings suggest the following: a) protocols to prevent violence are useful b) collaboration between nursing staff and security is helpful in identifying and proactively reducing violence c) restraints which can be very traumatic for both patients and staff are significantly reduced using this modality.

Saturday May 04

## **“I’m not just Moody!” – Bipolar disorder secondary to TBI with refractory disabling insomnia**

*Gaurav Taneja M.D.; James Megna MDPHDDFAPA; Fairouz Ali M.B.B.S.; Darshini Shah MBBS; Palak Fichadia M.B.B.S.*

Mood disorders especially bipolar disorder are common among individuals who have suffered a traumatic brain injury (TBI). They develop due to severe cognitive and emotional processing defects that may follow TBI. Sleep disturbances after TBI are exceedingly common and can lead to increased irritability as a result of underlying bipolar disorder. Due to the overlap between post-TBI disturbances and symptoms of bipolar disorder increased life stressors and limited awareness of post-TBI bipolar disorder there is increased difficulty in diagnosis and treatment. Here we present a case of a 41-year-old Caucasian Male who suffered a TBI at the age of 7 from a Motor vehicle accident (MVA) in which the left frontotemporal lobe was affected. He was admitted for extreme anger and irritability. He was struggling with refractory insomnia which was possibly a result of his bipolar disorder. He was previously treated with diazepam (high dose) duloxetine diphenhydramine melatonin mirtazapine hydroxyzine and olanzapine. His insomnia was poorly controlled which led to decreased functioning and worsening of his quality of life leading to irritability and anger outbursts. Alternative treatment options were difficult to formulate considering his history of lack of improvement to most of the medications. He experienced various side effects as well like anxiety delirium hallucinations nightmares etc. which made choosing the right medication even more important. In our treatment approach we considered a trial of chlorpromazine. It was the preferred choice

as besides acting as an antagonist on D2 receptors to ameliorate his hallucinations and stabilize his mood it also acts as an agonist on H1 receptors with additional anticholinergic properties causing the sedative effects seen on administration. With slow titration the patient showed increased hours of sleep. Eventually Chlorpromazine led to a drastic improvement in our patient's overall mood by decreasing anger outbursts and resolving his insomnia. He was able to sleep for longer hours and had decreased anger outbursts and increased mood stability. Through this poster we hope to highlight the difficulties faced in accurate diagnosis and subsequent management of his bipolar disorder and refractory insomnia considering the long-term effects of TBI on the developing brain.

Saturday May 04

## **A Measure of Rigidity/Perfectionism in Relation to Temperament in Youth with Obsessive-Compulsive Disorder and/or Tourette syndrome/chronic tics**

*Gurpreet Singh Walia; Yuji Choi MD MPH; Pratik Agarwal M.B.B.S.; Emily Pereira; Marco Grados MD MPH*

Objective- Perfectionism is linked to low sociability in the adult literature however established measures of rigidity/perfectionism are scarce in youth. The current study aims to characterize the phenotype of pediatric OCD and TS using rigidity/perfectionism in relation to temperament. Methods- An IRB-approved clinic registry recruited youth with OCD and/or Tourette syndrome/chronic tics (TS/CT) ages 5-17 years in an urban academic center. A rigidity/perfectionism measure used the Leyton Obsessional Inventory-Child Version (LOI-CV). Three LOI-CV items (need for

organization need for order and need for objects being arranged “just so”) constituted the rigidity/perfectionism measure as previously published. A parent-report scale (Junior Temperament and Character Inventory; JTCI) measured temperament deriving novelty-seeking (exploratory behaviors) harm avoidance (propensity to anxiety/depression) reward dependence (expression of affect) and persistence (hard-working) traits. Kruskal-Wallis non-parametric tests calculated whether low medium and high rigidity/perfectionism levels have equal medians for temperament. The non-parametric Cusick test of trend estimated whether temperament varies as rigidity/perfectionism levels increase. Stratified sex (male female) and age groups (school age youth ages 5-11 years adolescents ages 12-17 years) sub-analyses were conducted. Results- The sample comprises 88 youth (57 % male 12.8 + 2.9 years) with diagnoses of OCD only (n=38) TS/CT only (n=19) and OCD+TS/CT (n = 31). No difference in medians for rigidity/perfectionism groups exist for novelty seeking (p=0.26) harm avoidance (p=0.17) or persistence (p=0.57) but reward dependence (chi2=6.92(2); p=0.03) is significant. Post-hoc group comparisons show lower reward dependence in the higher level of rigidity/perfectionism compared to the medium level (z=2.56; p=0.01). Stratification by age and sex resulted in no further significant differences. In the test of trend reward dependence decreases with increasing rigidity/perfectionism (z=-2.09; p=0.03). Interestingly with age stratification this is more evident in females (z=-2.12; p=0.03) but not in males and mostly in adolescents (z=-1.75; p=0.08) but not in school age youth. Although the test of trend is only marginal for harm avoidance (z =+1.62; p =0.10) and novelty seeking (z =-1.54; p =0.12)

stratification by age shows a greater effect in adolescents for harm avoidance (z=1.85; p=0.06) novelty seeking (z=-1.74; p=0.08). Conclusions- Rigidity/perfectionism in youth with OCD and/or TS/CT determines lower reward dependence (expression of affect) primarily in adolescent females. A propensity for higher harm avoidance (neuroticism) and lower novelty seeking (exploration) is also present in relation to higher rigidity/perfectionism in adolescents. Understanding rigidity/perfectionism in youth with OCD and TS may have utility in developing individualized treatments for these challenging conditions.

Saturday May 04

### **Acute Decompensation in Patients with Schizophrenia After Transitioning From an Oral Antipsychotic to Intramuscular Paliperidone Palmitate**

*Nitin Malik; Kirklin Smith MD*

Introduction: Long acting injectable (LAI) antipsychotics are appropriate options for patients with schizophrenia who struggle taking daily medication. Paliperidone palmitate is an example of an LAI which the manufacturer highlights does not require an oral overlap of medication when transitioning to this specific LAI. This poster highlights two patients that had an acute worsening of symptoms after transition to intramuscular paliperidone palmitate who initially had significant improvement on an oral antipsychotic. Case presentation: The first patient is an 18 year old male who presented to the psychiatric emergency department for breaking windows responding to internal stimuli and swinging a metal object at staff at his group home. The patient was admitted to the psychiatric ICU and started on oral risperidone in preparation to transition to an

LAI. The patient was titrated to risperidone 3mg twice daily and was transferred to the general psychiatric unit. He had improved insight more affect range and was able to endorse a history of hearing voices telling him to harm others but was no longer hearing these voices. He was tolerating risperidone well with no side effects. On day 15 of receiving oral risperidone it was discontinued and the patient received IM paliperidone palmitate 234mg in his left deltoid muscle and 156mg in his right deltoid muscle 5 days later. On the night after receiving the second dose of paliperidone the patient assaulted a nurse and assaulted another patient requiring emergency intramuscular medications. He was responding to internal stimuli and was transferred back to the psychiatric ICU. The second patient is a 32 year old male who presented to the psychiatric emergency department for throwing rocks through several windows at his refugee housing and extreme paranoia. He was admitted to the general psychiatric unit. He required court ordered administration of oral paliperidone and was titrated to 9mg daily. He had improved insight and his paranoia had subsided. On day 10 of receiving oral paliperidone it was discontinued and the patient received IM paliperidone palmitate 234mg in his left deltoid muscle and 156mg in his right deltoid muscle 4 days later. In the days between the two doses of medication the patient had significant re-emergence of his paranoia and had several episodes of agitation. Discussion: The manufacturer of paliperidone palmitate states that an oral overlap of antipsychotic medication is not necessary when initiating this LAI. It is medical lore among many psychopharmacologists that especially in an inpatient setting with high acuity patients an overlap of oral risperidone or oral paliperidone should be considered to prevent

decompensation. These cases highlight that this strategy should be considered by inpatient psychiatrists when deciding how to transition patients to paliperidone palmitate.

Saturday May 04

### **Adverse Effects of Psilocybin in Bipolar Disorder: A Literature Review**

*Isaac Song M.D.; Najeeb Hussain*

Background: Bipolar disorder is characterized by recurrent episodes of depression and mania with limited treatment options for some patients. Recent clinical trials have shown early evidence in the therapeutic potential of psilocybin a naturally occurring psychoactive compound found in “magic mushrooms” in the management of unipolar depression. Most clinical trials involving psilocybin or other psychedelics exclude patients with bipolar disorder due to safety concerns of inducing mania. This literature review aims to examine case studies to evaluate the relative risks of psilocybin use as a potential treatment for bipolar disorder. Methods: A search of PubMed and Google Scholar was conducted using key terms “psilocybin” “psychedelic” “magic mushrooms” “bipolar disorder” “bipolar depression” “case study” “case report”. The search returned 72 results which were screened for English language and study content focused on the adverse effects of psilocybin. A total of 5 case studies met inclusion criteria and were reviewed. Results: All 5 studies exhibited patients who developed an episode of both mania and psychosis after ingestion of psilocybin. Only 1 case study involved a patient with history or family history of bipolar disorder. In this case the patient took psilocybin once without any other substance use history which triggered a first episode of sustained mania. Three of the

other studies described psilocybin ingestion resulting in mania that resolved on follow-up whereas one patient had continued depression. Two of these studies had polysubstance use history prior to the episode. Adverse events were variable in length and ranged from 1 week to 10 weeks confounded by treatment and management. Discussion: As described one study detailed possible activation of a manic episode following psilocybin use in a patient who was later diagnosed with bipolar disorder. The four other studies detailed a single manic episode related to psilocybin use without a bipolar related diagnosis. Other considerations include concurrent use of other substances and psilocybin can be risk factors for adverse outcomes such as mania or psychosis. While these cases are important given that psilocybin use is common recreationally this may suggest that the relative risk of mania induction could possibly be low. Given the significant burden of bipolar depression and the positive antidepressant effect of psilocybin further research is warranted in individuals with bipolar disorder ingesting psilocybin to understand the true risk of adverse effects and other outcomes.

Saturday May 04

### **Anxious When Disconnected From Digital World: A Global Cross-sectional Study on Nomophobia Among Medical Students**

*Abhishek Kashyap MBBS; Aakanksha Singh M.B.B.S.; Priyal Mehta MBBS; Usha Kumari; Faisal Nawaz MBBS*

Background: As the world enters the early phases of the Fifth Industrial Revolution digital gadgets such as smartphones are being integrated into various industries including medical education and health care. Smartphones have become such a basic

necessity for humans that they are unable to function without them. The anxiety associated with the fear of being phoneless is termed nomophobia (NMP). There is a lack of literature investigating the prevalence of NMP among medical students (MS). We aim to conduct a survey on the extent of this digital revolution among these future healthcare providers. Methods: A self-reported global cross-sectional study was conducted among MS from April 1st to July 1st 2023. A web-based validated and modified NMP questionnaire (NMP-Q) was shared with MS using emails and social media applications. The data analysis was aimed at assessing nomophobia severity and extracting demographic insights. The study was IRB-exempt. Results: There were a total of 2540 responses from 41 countries. Females comprised 57.5% of our cohort with the peak age range being 18–25 years (82.5%). Asian respondents made up 69.1% of the sample followed by Hispanics (10.3%) Caucasians (4.6%) and Africans (7.8%). 53.3% of MS indicated >2 hours of smartphone use for work or studies while 51.5% reported using them for >4 hours of personal use. A vast majority (62.7%) were Android users as compared to 36.4% of iPhone operating system (iOS) users. The top 5 countries with the highest responses were Pakistan India Bangladesh Nepal and Guatemala with a frequency of responses of 656 (25.8%) 466 (18.3%) 170 (6.6%) 167 (6.5%) and 112 (4.4%) respectively. Lastly 12.6% 67.6% and 19.6% of MS met the criteria for mild moderate and severe NMP respectively. Conclusion: Our study shows that a vast majority of MS meet the criteria for moderate to severe nomophobia. This should initiate a debate about early recognition and management of nomophobia which may help enhance the mental well-being of MS in the digital era.



Saturday May 04

### **Association of TNF- $\alpha$ levels and self-esteem assessed with the Contingencies of Self-Worth Scale in adult high-functioning autism spectrum disorder**

*Takahira Yamauchi*

Background: Self-esteem has been emphasized as a basis for maintaining mental health and for interpersonal relationships. Autism spectrum disorder (ASD) represents a heterogeneous cluster of etiologically and phenotypically complex neurodevelopmental disorders involving persistent problems in social communication and interaction along with restricted and repetitive patterns of behavior and interests. Therefore individuals with ASD who have difficulties in social adaptation may have low self-esteem. This study evaluated the association between plasma TNF- $\alpha$  level and self-esteem assessed with the Contingencies of Self-Worth Scale (CSWS). Methods: 51 high-functioning individuals with ASD and 34 typically developed (TD) individuals were enrolled in this study (age: TD 28.0 $\pm$ 7.5.8; ASD 28.6 $\pm$ 7.7). Self-esteem was assessed with the Japanese version of the CSWS which was created by Uchida (2008). TNF- $\alpha$  level in plasma was measured by ELIZA kit (HSTA00E R&D Systems). Results: Diagnosis and symptoms of ASD were assessed by ADOS-2. Among ASD group the score of social affect (SA) on ADOS-2 indicating social interaction impairment was significantly negatively correlated with plasma TNF- $\alpha$  level ( $r = -0.351$   $P = 0.011$ ) but the score of restricted and repetitive behaviors (RRB) was not correlated. In the multiple regression analysis of the seven items on the CSWS Appearance ( $\beta = -10.58$  95% CI -19.3 to -1.88  $P = 0.018$ ) Relationship harmony ( $\beta = -12.28$  95% CI -20.8 to -3.76  $P = 0.006$ ) and Other's approval ( $\beta = -15.06$  95% CI -23.8 to -6.28  $P = 0.001$ )

were negatively associated with TNF- $\alpha$  level in ASD group. Conclusion: The results show that individuals with ASD associate their self-worth with the three items above and when faced with related life events those with ASD who have low TNF- $\alpha$  levels are likely to experience fluctuations in their self-worth in conjunction with these three items. Therefore it is necessary to pay attention to these three items. These individuals with ASD need to pay attention to these three items. This study was supported by AMED-PRIME under Grant Number 21gm6310015h0002.

Saturday May 04

### **Clinical benefit and utility of Aripiprazole once Monthly in routine Practice for Korean Bipolar patients**

*HYE RYUN YANG; Jiwan Moon; Sung Joon Cho; Kang Seob Oh; YOOSUK AN*

Introduction Adherence to medication in individuals with bipolar disorder is a crucial factor predicting long-term treatment outcomes. However the discontinuation rate for Korean bipolar disorder patients over a 3-year period reaches nearly 50%. While the use of long-acting injectable (LAI) antipsychotic medications is on the rise to improve adherence and manage mood stabilizer side effects there is a lack of research regarding the functional improvement and therapeutic effects of LAIs in Korean bipolar disorder patients. Methods This study is a non-interventional retrospective naturalistic observational analysis based on medical records. The starting point for assessing Aripiprazole Once Monthly (AOM) treatment is when it was initiated in routine clinical settings. Data is collected at 1-month 3-month 6-month 9-month and 12-month intervals using medical records. The primary evaluation variable is

the change in the average GAF (Global Assessment of Functioning) score over 12 months while secondary evaluation variables include changes in scores for YMRS K-MADRS HAM-A dosages of mood stabilizers antidepressants antipsychotics benzodiazepines anticholinergic medications and the number of pills. Results Analyzing 23 patients the findings reveal that the GAF score increased from 49.8 to 62 over the course of twelve months with a noticeable increase observed from 1 month of AOM treatment onward (57 points). YMRS exhibited a substantial decrease from 6.7 to 1.4 K-MADRS decreased from 15.5 to 10 and HAM-A dropped from 15.2 to 9.8. There was a significant reduction in and lithium equivalent dosages and pill count for mood stabilizers. Although other medications including antipsychotics benzodiazepines z-drugs and anticholinergic medications also saw a decrease in dosages and pills the changes were not statistically significant. Among the 23 patients 6 reported side effects (4 cases of akathisia 3 of tremors 3 of weight gain and 1 of headache) but no severe adverse effects were reported. Conclusion This study demonstrates clinical enhancement in functional outcomes and significant improvement in mood symptoms through AOM treatment in bipolar disorder patients. Moreover the noteworthy decrease in dosage and pill count for mood stabilizers suggests a potential reduction in side effects for patients. This study holds significance as it is the inaugural evaluation of AOM's utility among Korean bipolar disorder patients. Keywords Bipolar disorder Long-acting injectable Aripiprazole once monthly

Saturday May 04

## **Drug Testing Services in the United States: A Scoping Review**

*Nicholas Apping M.D.; Tiffany Martin; Joseph Palamar*

Opioid-related drug overdose deaths have been rapidly increasing in the United States with over 70000 deaths due to synthetic opioids other than methadone in 2021. In the United States drug testing services have been rapidly expanding in response to the rising opioid overdose crisis due to fentanyl and its analogs though the legality of these services are variable between states. Given the recent growth of these services we conducted a scoping review to better understand who is utilizing these services in the United States when these services are being accessed and the types of services available. We performed a literature search in April 2023 with the help of an NYU research librarian utilizing the Covidence management system to search six databases to identify scholarly work related to the use of drug testing in the United States. Two independent reviewers screened abstracts and full texts for final inclusion in the study. All discrepancies were further reviewed until consensus was reached. Literature was included if 1) they were primary data sources or gray literature reports 2) drug testing was utilized during the course of the study or if the work included people who self-identify as using drug testing services 3) the study population was in the US from 1990 to present 4) demographic data was included and 5) results were reported in English. In total 1125 published studies were screened and 19 studies from 2018-2023 were included in this review and represented every region of the country. Types of drug testing utilized included fentanyl test strips reagent tests and personal identification based on physical characteristics. Drug testing services were more likely to be utilized by younger participants by Caucasian participants (compared to African Americans) and by

people who've experienced homelessness. Variable rationales were provided regarding use of drug testing services both pre- and post-consumption. Barriers to usage included a shortage of available materials inconvenience of environmental circumstances large variability of services and the legality of their use. The results of the drug testing resulted in several reported changes in substance use behaviors. This study reviewed the current data on drug testing services in the United States including the current types of testing services available population characteristics of who is utilizing these services when these services are being used and how the use of drug testing services impacts substance use behaviors. This knowledge will help providers to better understand their patients and the services available to them in the community. The limited data reviewed here is heterogeneous and emphasizes the need for further research into this area to determine how these services can best be utilized and expanded to improve patient care.

Saturday May 04

**Exploring the Co-Occurrence of Bipolar Disorder and Personality Disorders: Prevalence Suicidality and the Impact of Substance Abuse.**

*Nnenna Okafor MD; Kenechukwu Anona; Oluwatobi Olaomi; Ebehireme Silvia Udegbe; Oluwafemi Ojo*

Background: Bipolar disorder and personality disorders are significant mental health conditions with varying degrees of co-occurrence. Understanding the prevalence and implications of these co-occurrences is crucial for improving diagnostic accuracy treatment outcomes and patient care. Substance abuse is a prevalent issue among

individuals with both disorders contributing to worsened disease outcomes increased suicide rates and reduced response to treatment interventions. This study addresses gaps in the existing literature by exploring the co-occurrence of these conditions and their impact on clinical practice. Methods: This study analyzed adult hospitalizations for bipolar disorders from 2016 to 2020 using data from the Nationwide Inpatient Sample. It used ICD-10-CM/PCS codes sociodemographic characteristics and univariate and multivariate regression models to examine the association between substance abuse and suicidality. Result: A study of 993000 inpatient admissions for bipolar disorders revealed a predominantly White patient cohort with a slightly higher representation of females (54.5%) than males (45.5%). The mean age of the patients was 41 years and 89.4% had minimal comorbidity burden. 61.1% of the population hailed from lower-income households with annual earnings below \$56000. Most patients (93.2%) had insurance coverage and were admitted to urban teaching hospitals. The most prevalent diagnostic subtype was bipolar disorder with manic episodes with or without psychotic features (32.3%). Comorbid personality disorders were observed in 12.2% of the population with borderline personality disorder (8.2%) and antisocial personality disorder (2.6%). Substance abuse was prevalent in 44.8% of the study participants with cannabis abuse being the most commonly reported (23.8%). Substance abuse was more prevalent in individuals with both bipolar disorder and personality disorders (50%) than in those with bipolar disorder alone (44.1%). Conclusion: This study revealed a high prevalence of comorbid personality disorders particularly borderline personality disorder among individuals with bipolar disorder. It also

revealed an increased risk of suicidal attempts and a significant link between substance abuse and these risks. This study emphasizes the need for comprehensive individualized care for bipolar disorder emphasizing early diagnosis addressing socioeconomic disparities and improving access to quality mental health care. It also advocates routine screening for coexisting personality disorders. Future research should explore the underlying mechanisms and evaluate intervention strategies to improve the long-term prognosis of patients with bipolar disorder.

Saturday May 04

### **HIV Prophylaxis from the Psychiatry Office**

*Kimberly Fletcher D.O.*

Prevention of HIV is of paramount importance for public health. There are over 1.2 million Americans affected by HIV and a disproportionate number of the 400,000 new yearly cases are from marginalized communities (CDC). Pre-exposure prophylaxis (PrEP) of HIV using Truvada Descovy or injectable cabotegravir is FDA approved and up to 99% effective when taken as directed (Sudler). Despite its approval and efficacy prescriptions for PrEP are initiated in less than 80% of individuals who have indications for use (Sudler). Compliance with PrEP is also low particularly among those with serious mental illness (SMI) (Ikeda). Considering the well described correlation of HIV and SMI it is incumbent upon psychiatrists to make screening and prevention with PrEP a cornerstone of our care. This literature review aims to assess the current state and recommendations for prescribing PrEP in mental health care settings. A Pubmed database title and abstract search was conducted using the

terms: HIV PrEP or Tenofovir and Psychiatry or Mental Health. We included available full text English articles published in the last 5 years. 105 articles returned; initial title review identified 30 articles relevant to the aims of this review including 2 RCTs 5 reviews 12 cross sectional and 11 observational studies. Further identification of articles with broad population inclusion and qualitative foci narrowed the selection to 8 publications. 5 articles had a focus on sexual minorities. These articles emphasized that the primary barriers to initiating and maintaining PrEP in this population are marginalization and stigma. Reiriz et al. identified a statistically significant relationship between better sexual and life satisfaction in PrEP users and an inverse relation to depression and anxiety. Wood et al. helpfully described the importance of serial PrEP clinical conversations in treatment initiation and adherence. The other 3 articles focused on the broader impacts of PrEP within the SMI community. These had recurrent themes of the diffusion of responsibility among providers in screening and initiating PrEP. These practices were attributed to knowledge deficits and stigma in both patients and prescribers marginalization of minority communities most at risk (sex workers injections drug users or the homeless) and racial disparities. The conclusions of these articles ubiquitously called for psychiatrists to consider themselves front-line responders to the HIV epidemic. In conclusion our treatment population uniquely positions psychiatrists to intervene in the HIV epidemic. Provider edification of cultural nuances within marginalized communities and empirical knowledge of PrEP prescribing guidelines can reduce stigma and foster engagement in care. The benefits of PrEP can improve our patients' general life satisfaction and appropriate buy in from our psychiatric

colleagues could dramatically advance HIV preventative care in our communities.

Saturday May 04

### **Impact of COVID-19 Quarantine on Psychiatric Hospital Readmissions: A Case-Control Study from a Tertiary Referral Medical Center in Colombia**

*Eugenio Ferro; manuel pinzon; Carlos Torres Delgado*

Background: Studies on readmissions in psychiatric populations have reported rates ranging from 4.5% to 34% within 30 days after hospital discharge. Multiple factors associated with readmission have been reported; however risk and protective factors have shown inconsistency across different studies. The effects of COVID-19 quarantine on psychiatric readmissions have not been studied in Colombia to date. Objectives: The aim of this study was to determine the risk and protective factors for early readmission among inpatients between 2015 and 2020 with a focus on comparing the pandemic and pre-pandemic periods. Methods: Design: A case-control study was conducted. Cases matched to controls by age sex and diagnosis. Sample: Clinical records of patients who had readmission between January 2015 and December 2020. Cases: Patients who were readmitted within 30 days of their previous hospitalization. Pandemic cases: Cases readmitted between March and December 2020 during COVID-19 quarantine period in Colombia. Controls: Controls were selected from patients who did not require hospitalization for at least 24 months. Sample size: n=303 (152 cases and 151 controls 1:1 ratio). Results: The average age was 43 years (+/-23) with 64% female patients. Admission diagnoses included 48% with depressive disorders 20% with bipolar

disorder and 9% with psychotic disorders and dementia. There were no significant differences in the average length of hospital stay prior to readmission between cases (14.4 days) and controls without readmissions (13.5 days) (p=0.23). Hospitalizations during the pandemic were longer with a median of 14 days compared to the pre-pandemic period which was 12 days (p=0.049). A significant decrease in the proportion of readmissions was observed during the COVID-19 pandemic (OR=0.39: 95% CI 0.20-0.75; p=0.0067). The primary risk factor for early readmission was a change in the treating physician during hospitalization (OR=15.6; 95% CI 4.7-52.2; p<0.0001) followed by outpatient prescription of typical antipsychotics (OR=8.04: 95% CI 3.06-21.13; p=0.000011) and atypical antipsychotics (OR=4.13: 95% CI 2.42-7.07; p<0.000001). There were significant differences in the number of medications received by patients during hospitalization with readmitted patients receiving a median of 3 or more medications compared to those who were not readmitted who received 2 or fewer (p<0.001). The main protective factor was post-discharge psychiatric early follow-up (OR=0.50; 95% CI 0.29-0.87; p<0.001). Conclusions: Changing the treating physician during hospitalization and outpatient prescription of typical and atypical antipsychotics were identified as risk factors for early readmission. Patients who received multiple medications during hospitalization were at a higher risk of readmission. Post-discharge follow-up emerged as a protective factor against early readmission.

Saturday May 04

### **Ketogenic-Mimicking Diet as a Therapeutic Modality for Bipolar Disorder**



*Travis Wigstrom*

There is growing interest in the investigation of ketogenic diets as a potential therapy for bipolar disorder. The overlapping pharmacotherapies utilized for both bipolar disorder and seizures suggest that a mechanistic overlap may exist between these conditions with fasting and the ketogenic diet representing the most time-proven therapies for seizure control. Recently preliminary evidence has begun to emerge supporting a potential role for ketogenic diets in treating bipolar disorder. Notably some patients may struggle to initiate a strict diet in the midst of a mood episode or significant life stressors. The key question addressed by this pilot clinical trial is if benefits can be achieved with a less restrictive diet as this would allow such an intervention to be accessible for more patients. Recent development of so-called ketone esters that once ingested is converted to natural ketone bodies combined with low glycemic index dietary changes has the potential to mimic two foundational components of therapeutic ketosis: high levels of ketones and minimal spiking of glucose/insulin. This pilot clinical trial protocol thus aims to investigate the effect of a 'ketogenic-mimicking diet' (combining supplementation of ketone esters with a low glycemic index dietary intervention) on neural network stability mood and biomarker outcomes in the setting of bipolar disorder. Positive findings obtained via this pilot clinical trial protocol may support future target engagement studies of ketogenic-mimicking diets or related ketogenic interventions. A lack of positive findings in contrast may justify a focus on more strict dietary interventions for future research.

**Saturday May 04**

## **Lithium-induced Diabetes Insipidus or Drinking-related Stereotypical Behaviors. A Case Report**

*Irem Yapar M.D.*

Introduction: Catatonia is a syndrome that has unique motor and behavioral manifestations. DSM-5-TR requires the presence of three out of 12 symptoms for diagnosis. Stereotypes are defined as repetitive abnormal frequent on-goal-directed movements. Recent reports described some complex presentations of stereotypes such as polydipsia which was resolved with the treatment of lorazepam. We report a case of a patient with bipolar disorder and recurrent catatonia who was stabilized on lithium and lithium was discontinued due to concern about polydipsia and polyuria being related to lithium-induced nephrogenic diabetes insipidus. These symptoms persisted despite lithium discontinuation and resolved with the treatment of catatonia with lorazepam. Case Summary: A 62-year-old female with a history of bipolar I disorder and recurrent catatonia presented to the hospital with worsening manic symptoms and catatonia in the context of medication non-compliance. She was maintained on lurasidone 80 mg daily and lorazepam 2 mg tid. She demonstrated mutism grimacing echolalia perseveration verbigeration and excitement. Lorazepam was increased to 4 mg tid and lurasidone was increased to 120 daily with some improvement in her symptoms but no complete resolution. A review of previous medication trials revealed that her symptoms of bipolar disorder and catatonia improved with lithium six years prior. She was maintained on lithium 450 mg twice daily and risperidone 4 mg daily and her corresponding lithium level was 0.7 mmol/dl. She had another exacerbation of mania with psychotic

features associated with catatonia during which she was reported to have excessive drinking and urination. No labs were drawn during that period. However lithium was discontinued due to concerns of polydipsia and polyurea. Polydipsia and polyurea recurred two months after lithium discontinuation in association with catatonia features and resolved with the treatment of catatonia. Hence she was restarted on lithium 450 mg daily; the corresponding level was 0.5 mmole/dl. Her catatonia and manic symptoms resolved. Adivan was tapered down successfully to 1 mg tid with no reports of excessive urination or drinking.

**Discussion:** Recent reports described excessive drinking and urination in the context of catatonia stereotypical manifestations which improved with using lorazepam. Diabetes insipidus is an occasional side effect of lithium that can occur in 10-15% of patients receiving lithium leading to excessive production of urine and increased thirst. Our patient developed polydipsia and polyuria associated with catatonia and the symptoms occurred independently of lithium. Discontinuation of lithium resulted in the destabilization of bipolar disorder and catatonia. This case reflects the importance of recognizing the complex presentation of catatonia especially polydipsia as it can overlap with nephrogenic diabetes insipidus.

Saturday May 04

### **Mindfulness Interventions for Adolescent Substance Use: A Systematic Review**

*Tai West M.D.; Tai West M.D.; Daniel Weiner M.D.; Samreen Awan M.D.; Mohammad Rana*

**Background:** Despite billions of dollars in federal and state funding for youth anti-drug programs substance use remains widely

prevalent among U.S. teens. Adolescent drug and alcohol use negatively affects multiple domains including physical and mental health academic achievement and social functioning. Even casual substance use during adolescence is associated with subsequent development of a diagnosable substance use disorder (SUD). Mindfulness-based interventions have demonstrated efficacy in the management of a wide range of mental health conditions in adults including SUDs. Clinical trials investigating mindfulness approaches to substance use in younger populations have recently begun to appear and our literature review revealed no previous systematic review on this emerging area of research. **Methods:** Following PRISMA guidelines we performed title/abstract searches in Pubmed Cochrane Library EbscoHost and Google Scholar for papers published between database inception and July 4 2023. We used the following search strategy: (child\* or adolescen\* or youth or young\* or emerging adult\*" or juvenile\* or teen\* or student\*) AND (substance or alcohol\* or drug\* or narcotic\* or opiate\* or opioid\*) and (addict\* or dependen\* or misuse or use\*) AND (mindful\* or meditat\*). After eliminating duplicate results and reviewing all abstracts for relevance this strategy yielded seven randomized controlled trials (RCTs) and three non-randomized trials evaluating the impact of mindfulness-based therapies on adolescent substance use and related outcomes. For all RCTs we used the Cochrane RoB 2.0 tool to assess for risk of bias. **Results:** Of the ten studies two focused on alcohol users two on methamphetamine users and the rest on undifferentiated substance users. In general sample sizes were small (n=35-109) with the exception of one larger cluster RCT (n=404). The studies were characterized by significant heterogeneity in terms of both interventions

and outcome variables. Results overall were promising suggesting that mindfulness-based interventions for teens may have a role in reducing substance use cravings and mood dysregulation and may enhance behavioral control and executive functioning. Of the six studies that directly measured substance use or cravings four found statistically significant improvements in these variables associated with mindfulness interventions. Among the seven RCTs six presented a low risk of bias judgment and one presented some concerns for bias. Conclusions: Although initial results have been promising additional RCTs with greater sample sizes will be needed to more accurately define and quantify the impact of mindfulness-based interventions on adolescent substance use-related outcomes and to determine whether there is a dose-dependent relationship between time spent practicing mindfulness techniques and the magnitude of benefits. "

Saturday May 04

### **Paxlovid-induced methadone withdrawal after COVID-19 – A Case Report**

*Sungsu Lee M.D.;Ph.D.; Eric Cheung M.D.*

Introduction: Since its approval Paxlovid (Nirmatrelvir/ritonavir) has been utilized to treat mild-to-moderate COVID-19 routinely. However there have been concerns raised in the literature about potential drug-drug interactions. We suspect that interactions with Paxlovid and methadone is the cause of our patient's presentation. Case: We present the case of a 53-year-old man with a past psychiatric history of bipolar disorder and opioid use disorder on methadone maintenance who presented to the psychiatric emergency room with dizziness increased anxiety and suicidal ideation. Patient had been diagnosed with COVID-19

about 10 days prior to his presentation and was prescribed Paxlovid for moderate symptoms of COVID. Since then patient reported increased restlessness anxiety diaphoresis and pains which was very similar to his previous experience with opioid withdrawal. Patient denied any substance use over the past 6 years. His medications included escitalopram 10mg daily trazodone 100mg daily gabapentin 1200mg twice a day and methadone 85mg daily. On exam patient appeared uncomfortable and was diaphoretic with increased psychomotor activity. Urine toxicology screen was negative for opioids. He endorsed significant interval improvement when he was given his methadone dose. Patient was then admitted for further treatment given his ongoing suicidal ideation. Discussion: Paxlovid consists of two antiviral medications nirmatrelvir and ritonavir. Nirmatrelvir is inhibits the activity of the SARS-CoV-2 main protease (nsp5) and is the main active agent. Ritonavir is utilized as it is a known CYP3A4 inhibitor to increase the plasma level and activity of nirmatrelvir. Methadone is also believed to be metabolized by CYP3A4 and given the activity of ritonavir as a CYP3A4 inhibitor it is reasonable to expect its plasma concentrations to increase. However prior studies have shown that ritonavir paradoxically appears to increase both the renal clearance and hepatic metabolism of methadone two-fold. There are even cases of ritonavir being suspected in opioid withdrawal symptoms. The possibility of Paxlovid induced opioid withdrawal have been presented in pharmacy guidelines. This patient had been previously stable without recent changes in methadone dose urine toxicology screens negative for additional opioid use good engagement with an addiction clinic and no recent psychiatric emergency room presentations. Given the

previous stability the presenting symptoms consistent with opioid withdrawal the potential for rapid induction of methadone metabolism we believe that this patient's symptoms were caused by Paxlovid-methadone interaction. Conclusion: This case is the first documented case of Paxlovid interaction causing methadone withdrawal. This case further demonstrates that there exists potential for significant drug-drug interactions with Paxlovid and careful consideration must be given prior to its use.

Saturday May 04

### **Psychosis as the sole presenting symptom of cryptococcal meningitis in an AIDS patient without previous psychiatric history**

*Megan Good*

Introduction- Cryptococcal meningitis is a serious complication of HIV/AIDS that presents a life-threatening prognosis for affected patients. The illness has a gradual onset and most often presents with nonspecific symptoms such as fever headache confusion lethargy altered mental status and personality changes. However the presentation of cryptococcal meningitis with psychosis as the cardinal symptom is quite rare. Case Description – We present the case of a 44-year-old male with no known psychiatric or medical history admitted for a 1-month history of disinhibited behavior and perceptual disturbances. The patient was initially taken to the medical ED due to presumed intoxication after he was found nude on a public street acting erratically. The patient was subsequently discharged. Upon release from the medical ED the patient climbed onto the hospital's helicopter pad and was arrested. He was taken back to the hospital by police and was accessed

psychiatrically. All labs performed in the psychiatric emergency room (CBC CMP serum toxicology screen and urine drug screen) were unremarkable. Vitals were also unremarkable. He was then admitted to an acute psychiatric unit located in a local hospital. Upon admission the patient appeared emaciated-reportedly having lost 58 lbs in a short period. The patient was slow to respond with waxing and waning mental status. Some of his drowsiness and latent speech were attributed to dystonia secondary to haloperidol that was administered in the psychiatric emergency room. Benzotropine 1 mg was administered intramuscularly without effect on his mental status. As part of a standard psychosis workup an HIV antibody test was ordered and resulted positive. This positive screening test was followed by a CD4 count of 80. The patient began spiking low-grade fevers and displaying other vital derangements such as tachycardia and hypertension. Medicine and infectious disease were consulted immediately but unfortunately did not follow up until the next morning. He was subsequently transferred to the medical ICU where cryptococcal meningitis was highly suspected. A lumbar puncture was notable for cryptococcus with opening pressure >30 increased WBC and increased protein. Positive culture confirmed the diagnosis of cryptococcal meningitis. The patient was also presumed to have findings on CT chest consistent with PCP pneumonia and right lower lobe pulmonary embolism. Acute psychosis completely resolved after CNS infection was treated. During the hospital course he did have moments of decreased lucidity and confusion with intermittent auditory and visual hallucinations. However these improved throughout hospitalization with intermittent treatment with low-dose olanzapine. Conclusion– Symptoms of cryptococcal

meningitis can rarely mimic primary psychiatric disorders leading to delays in diagnosis and care for these critically ill patients.

Saturday May 04

### **Semaglutide-Induced Suicidal Ideation in a Patient with Psychiatric Comorbidities: A Case Report**

*Raju Kakarlapudi M.D.; Shahan Syed M.D.; Mateen Abbasi; Zahra Jafary*

Background: Patient is a 42-year-old female with a history of bipolar 1 disorder post-traumatic stress disorder morbid obesity and type 2 diabetes mellitus. The initiation of Ozempic was considered as a surrogate for bariatric surgery given the patient's contraindications arising from significant psychiatric comorbidities. Three weeks post-commencement the patient manifested abrupt behavioral alterations protracted nihilistic delusions and made attempts at self-strangulation. A gradual amelioration of behavior was observed upon discontinuation of Ozempic treatment. Objective: This case study attempts to scrutinize potential mechanisms underlying semaglutide-induced suicidal ideation. The primary aim is to augment awareness regarding the potential adverse effects associated with Ozempic utilization both among the general populace and within the psychiatric community. Method: A thorough examination of extant literature was conducted via Google Scholar. Patient data was acquired utilizing a diverse array of data collection methods which encompassed direct clinical interviews and meticulous behavioral monitoring. This facilitated the systematic documentation of observable trends and behavioral alterations in response to diverse pharmacological interventions.

Discussion: Ozempic a glucagon-like peptide 1 (GLP-1) antagonist approved for Type 2 Diabetes binds and enhances GLP-1 receptors on pancreatic  $\beta$ -cells initiating the release of  $G\beta$  and  $G\gamma$  proteins thereby promoting heightened insulin sensitivity amplified neuroprotection and elevated lipolysis. Moreover they act on the brain stem lateral septum and hypothalamus modulating food intake and reward with GLP-1 receptor stimulation promoting dopaminergic neuron activity at the ventral tegmental area and increased expression of dopamine transporters on neuronal cell surfaces thereby reducing free dopamine levels in synapses prompting reduced dopamine levels. Despite the proposed neuro protective effects of Ozempic and akin medications since 2018 there have been approximately 60 documented cases of suicidal ideation and 7 suicide attempts. Many of these patients including our case reported significantly improved depression post-discontinuation suggesting that semaglutide therapy may induce a psychiatric adverse effect of depression in select patients. However the precise mechanism remains elusive. Conclusion: Numerous studies have illuminated the complications associated with GLP-1 medication in patients with psychological disorders. This underscores how these proteins may target affected proteins within respective psychological disorders potentially exacerbating the conditions. This necessitates further research to identify the specific proteins and enzymes implicated in exacerbating current psychological conditions and inducing such ideations.

Saturday May 04

### **Similar and unique immune proteomic profiles of major depressive disorder and**



## **primary dermatological disorders: a potential for novel treatments**

*Mina Rizk M.D. M.Sc.; Helen He; Flurin Cathomas; Emma Guttman; James Murrough M.D.*

Background: Immune dysregulation has been linked to major depressive disorder (MDD) and may contribute to treatment resistance in a subgroup of depressed patients. Depressive symptoms are common in patients with inflammatory conditions such as atopic dermatitis and psoriasis. Treatments targeting specific inflammatory markers in these disorders are commonly associated with improvement of depression suggesting a shared underlying inflammatory process that is yet to be identified. Methods: Blood samples collected from 108 participants (18-70 years old; 44% female) were analyzed using the proteomic Olink assay of 363 proteins consisting of four panels of general cardiovascular and neural inflammatory markers. The study sample included 25 individuals with MDD and no history of inflammatory conditions 30 patients with atopic dermatitis 21 patients with psoriasis and 32 healthy controls (HCs). Differentially expressed proteins in blood between any comparison were defined by fold-change >1.5 and false discovery rate <0.05. Gene set variation analyses (GSVA) were performed on previously curated datasets of immune markers. Results: Compared with the other 3 groups MDD patients showed higher expression of markers related to vascular inflammation and atherosclerotic cardiovascular disease signaling (e.g. PECAM1 SELP/P-selectin VWF SIRT2 STAMBP) as well as pro-apoptotic pathways (e.g. CD274 CASP3 CASP8) (all  $p < 0.001$ ). Compared with HCs MDD and atopic dermatitis patients had higher T-helper 2 (Th2) immunomodulators such as CCL13

( $p < 0.001$ ) whereas MDD and psoriasis patients had higher Th17 markers such as CXCL1 and KYN (p < 0.001 p < 0.01 respectively). GSVA pathway analyses also showed protein enrichment of T-cell signaling pathways (e.g. Th2). Conclusion: Although MDD is associated with an immune dysregulation profile that is distinct from atopic dermatitis and psoriasis there is a striking similarity in their adaptive immune proteomics (i.e. Th2 and Th17 markers). Effective treatments targeting Th2 and Th17 markers could be promising in patients with MDD who demonstrate dysregulation of these immune pathways.

Saturday May 04

## **The Global 3-P [Provider's Phone-lessness Phobia Study**

*Aakanksha Singh M.B.B.S.; Priyal Mehta MBBS; Sawsan Tawfeeq MD; Salim Surani MD MPH FCCM; Rahul Kashyap*

Background: Smartphones have made communication easier and augmented our reliance on them. But they may also induce behavioral changes and produce feelings of discomfort anxiety or nervousness caused by being out of contact with a mobile phone; this is known as Nomophobia or "No Mobile Phone Phobia". We aim to conduct a global cross-sectional study on Nomophobia. Method: A web-based survey was conducted among global healthcare professionals (HCPs) from April 1st to July 1st 2023. We modified the Nomophobia Questionnaire (NMP-Q) which consisted of the original 14 questions (Qs) and graded the nomophobia level as absent mild moderate and severe. Additionally two new sections of a total of eight Qs were added to explore common daily routines associated with smartphone use and to inquire about the amount of time spent on

mobile devices for personal and work-related purposes. Thus this survey had a total of 33 Qs (25 Qs divided into 6 sub-sections and 8 demographic Qs). This study utilized a pyramidal team structure while using a hub-and-spoke model for recruiting country leads. Using snowball sampling the survey was shared on various digital platforms such as WhatsApp™ Twitter™ Telegram™ and Facebook™. To break language barriers it was translated and validated into Arabic French and Spanish. The study was IRB-exempt. Results: A total of 12253 responses were collected from 105 countries. The highest number of respondents were from India (N = 1732) followed by Pakistan (N = 1203) the USA (N = 1115) Kenya (N = 1006) and Slovakia (N = 563). There were 59% female and 40% male HCPs. A total of 38% were in the 26–35 age group while 30.6% and 17.5% were in the 18–25 and 36–45 age groups respectively. 36% of the cohort were South Asian 14% were Latin Americans 13.2% were Black Africans and 11% were White Caucasians. Among HCPs specialties were well represented consisting of internists (1879) surgeons (833) nurses (549) dentists (445) radiologists (355) psychiatrists and psychologists (226). The majority (26.8%) of HCPs had 2-5 years 18.9% had 6-10 years and 16.2% had 11-20 years of clinical experience. A total of 55.6% of respondents were Android users while 43.2% preferred Apple iOS. In self-reporting NMP-Q total of 64.2% met the criteria for moderate 22.6% for severe nomophobia and 15.6% for mild. When compared to males female HCPs didn't have higher odds for moderate-severe nomophobia OR 1.05 (95% CI 0.95- 1.16). When compared to 6 hours of phone use for either activity. Conclusion: This global survey-based study sheds light on the burden of nomophobia among HCPs and highlights smartphones' significant role in their personal and professional lives.

Saturday May 04

### **The Other Side of the Coin in Opioid Addiction: A Systematic Review of the Kappa Opioid Receptor**

*Salih Cayir; Simon Zhornitsky; Alireza Barzegary; David Matuskey; Gustavo Angarita MHS*

Background: Opioid use disorder (OUD) is associated with many deaths from overdoses each year. The dysphoria that OUD individuals experience during withdrawal explains why many individuals relapse to drug use to feel “normal.” This is particularly relevant as OUD has been hypothesized to result from a weakened reward system in which more opiates are required to stimulate dopamine release due to desensitization at  $\mu$  and  $\kappa$  opiate receptors. At the same time there is a strengthening of “anti-reward” systems partially mediated by the dynorphin/kappa ( $\kappa$ ) opioid receptor (KOR) system which is associated with dysphoria or anhedonia during abstinence from opioids. Methods: A systematic scoping review was conducted following PRISMA guidelines through PubMed EBSCO Scopus and Web of Science based on published protocol (Open Science Framework <https://osf.io/jub94/>). We included preclinical and clinical studies that measured dynorphin/prodynorphin levels or KOR expression in the context of opioid administration or opioid withdrawal. We also included studies using dynorphin and/or KOR drug administration in the context of opioid administration or opioid withdrawal. Only in vivo studies published in the English language were included. Results: One-hundred studies were included in the final analysis. Thirty examined dynorphin levels thirteen examined KOR expression twenty-five examined KOR agonist administration twenty

examined KOR antagonist administration and twelve examined dynorphin administration on opioid use and addiction. Dynorphin and KOR levels showed mixed findings depending on the time of use (e.g. opiate administration or withdrawal) region of interest (e.g. periphery CSF or brain) animal model and/or the quantification method. KOR agonists consistently decreased addiction-related behaviors such as self-administration conditioned place preference and locomotion; however results were mixed for attenuation of withdrawal symptoms. KOR antagonists also showed mixed findings depending on the agent chronicity of treatment (acute vs. chronic) and/or type of withdrawal symptom. On the other hand dynorphin treatment consistently reduced opioid-induced withdrawal signs. Conclusion: Changes to the dynorphin and KOR expression can reflect various stages of the opioid addiction cycle. Also the administration of dynorphins and KOR agonists can improve OUD-related withdrawal symptoms and behavior outcomes respectively under certain conditions. Heterogeneous findings in KOR antagonist administration may relate to administered opioids KOR agents and methodological differences (or different dosages of the same agents). Future studies could address seemingly mixed results by using a single agent and/or opioid with a less heterogeneous study design or approach to examine the KOR system more quantitatively. This could involve techniques such as using positron emission tomography (PET) imaging with available KOR radioligands.

Saturday May 04

### **Elevated Cerebrospinal Fluid Total Tau Level Reflects Worse Cognitive**

### **Performance in Patients with Frontotemporal Dementia**

*Salih Cayir; Faranak Ebrahimian Sadabad; Adam Mecca; Arman Fesharaki Zadeh; David Matuskey*

Background: Frontotemporal lobar disease (FTLD) encompasses a range of clinically and pathologically heterogeneous neurodegenerative conditions characterized by varying language and behavior impairments in the early stages of the disease process. Cerebrospinal fluid (CSF) analyses of total tau (t-tau) p-tau amyloid  $\beta$  1-42 (A $\beta$ 42) and the p-tau/A $\beta$ 42 ratio are highly sensitive and specific biomarkers of AD pathogenesis that guide diagnostic and treatment decisions in clinical practice. However there is no consensus regarding the utility of CSF A $\beta$  and tau assays in patients with FTLD. In this study we examined the CSF t-tau p-tau and A $\beta$ 42 levels in a group of patients with FTLD and AD and assessed the association with cognition using the Montreal Cognitive Assessment (MoCA) Method: We conducted a retrospective cohort study with study participants selected from the electronic records of patients seen at Yale New Haven Hospital's Memory Clinic CT USA. We included 61 patients 28 with FTLD (mean age=65.3 71% male) and 33 with AD (mean age=66.7 39% male). Diagnoses were made by expert clinicians experienced in the care of patients with neurodegenerative diseases. We computed Pearson's r to evaluate the associations between CSF tau concentrations and MoCA scores. Results: We observed significantly higher mean values of t-tau p-tau and p-tau/A $\beta$ 42 ratio in patients with AD (775.7 $\pm$ 437.2 pg/l 95.9 $\pm$ 59.07 pg/l 0.20 $\pm$ 0.14 respectively) compared to patients with FTLD (331 $\pm$ 153.1 pg/l 46.08 $\pm$ 22.1 pg/l 0.06 $\pm$ 0.03 respectively) (p < 0.0001). CSF A $\beta$ 42 concentrations were significantly higher

in patients with FTLD ( $888 \pm 435.7$  pg/l) compared to patients with AD ( $540.6 \pm 243.7$  pg/l) ( $p = 0.0004$ ). In this sample patients with FTLD ( $19.03 \pm 6.3$ ) had significantly higher MoCA scores than patients with AD ( $15.7 \pm 6.7$ ) ( $p = 0.042$ ). T-tau had significant negative correlations with total MoCA scores in patients with FTLD (t-tau-MoCA:  $r = -0.42$   $p = 0.002$ ; p-tau-MoCA:  $r = -0.25$   $p = 0.186$ ). Both t-tau and p-tau had significant negative correlations with total MoCA scores in patients with AD (t-tau-MoCA:  $r = -0.52$   $p = 0.001$ ; p-tau-MoCA:  $r = -0.54$   $p = 0.0009$ ). Also within the FTLD group t-tau levels and executive domain performance were significantly correlated (t-tau-MoCA-EIS:  $r = -0.40$   $p = 0.03$ ; p-tau-MoCA-EIS:  $r = -0.32$   $p = 0.095$ ) but no significant associations were observed between tau levels and memory index score. Conclusion: T-tau and p-tau levels were inversely correlated with global cognitive scores in FTLD and AD patients but the relative strength of associations with regard to tau species and cognitive domains was unique for each syndrome. These findings provide valuable insights into the relationship between clinical cognitive performance and tau-related pathology in FTLD and may inform the design of future research focused on cognition and biomarkers in FTLD.

Saturday May 04

### **The role of COVID-19 and rural/urban status on youth psychiatric presentation in Alberta: Trends in child and adolescent mental health**

*Jacquelyn Paquet MD PhD(c)*

Introduction: The onset of the COVID 19 pandemic led to urgently initiated lockdown interventions in March 2020 with widespread impacts on psychiatric and physical illness

across the age spectrum [1-3]. Increasing social inequities among vulnerable populations particularly children and adolescents was further exacerbated by the pandemic and its consequences [4.5]. This study explored trends in presentation of mental illness among children and adolescents in Alberta by rural/urban location. Methods: We accessed all medical encounters for Albertans aged 0-17 utilizing ICD 9 and 10 billing codes for psychiatric disorders from 2017 to 2021 including emergency (N=42176) outpatient (N=322840) inpatient (N=15047) settings. Billing codes were divided into categories of anxiety mood eating substance use and self-harm. Data included biological sex age and geographic location. Two age groupings 6-11 and 12-17 were analyzed. With respect to rural/urban status – rural was classified as 1) large rural area 2) small rural area 3) Northern; and urban was classified as 1) metropolitan 2) metropolitan suburb 3) urban 4) urban suburb. We completed pre (2017 to 2019) and COVID (2020 to 2021) comparisons. Univariate and regression analysis was performed. Results: After March 2020 elevated presentation of anxiety and mood disorders was the most common across all healthcare and geographic settings among youth aged 12 to 17. There were higher presentations for females across all settings for anxiety mood and eating disorders ( $p = 0.00$ ). Presentation of anxiety disorders was more common in outpatient settings in urban regions (metropolitan ( $p = 0.01$ ) metropolitan suburb ( $p = 0.00$ ) and urban ( $p = 0.03$ )). In rural settings psychiatric presentations at emergency departments ( $p = 0.07$ ) were somewhat more common than outpatient or inpatient settings. Female eating disorders increased in outpatient ( $p = 0.05$ ) and emergency contexts ( $p = 0.00$ ) without geographic differences. For substance use

disorders rural cohorts were more commonly seen in outpatient (large rural  $p = 0.06$ ; small rural  $p = 0.03$ ; Northern  $p = 0.04$ ) and in the emergency settings (large rural  $p = 0.03$ ; small rural  $p = 0.00$ ; Northern  $p = 0.00$ ). Self-harm admissions decreased during COVID-19 with increased emergency department visits. Conclusion: An increase in psychiatric consultations in all settings was found. Anxiety disorders had the most notable increases especially among females during COVID with increased outpatient and inpatient presentations. Different trends for rural compared to urban cohorts pre-COVID and during COVID including increased substance related presentations in all three settings for rural cohorts and increased anxiety outpatient consultations and admissions for mood. This data highlights the need to investigate the differences with geography in care access strategies to address the geographical differences and consider how the trend will compare post-COVID.

Saturday May 04

### **Treatment Refractory Mania Requiring Sedation and Mechanical Ventilation – A Case Report**

*Sungsu Lee M.D.; Ph.D.; Henry Philofsky M.D.; Segundo Robert-Ibarra M.D.*

Introduction: We present a case involving a 30-year-old woman with a complex psychiatric history including bipolar disorder and marijuana use disorder that police brought to the with concerns for mania leading to involuntary hospitalization. This presentation aims to highlight the challenges faced in managing treatment-refractory mania and the considerations involved in providing appropriate care for such patients. Case Description: In the psychiatric

emergency room the patient displayed symptoms consistent with mania including irritability grandiosity hyperactivity and destructive behavior. This patient's chart contained a large volume of evidence for a major depressive disorder but only brief mentions of bipolar disorder without a convincing phenomenological description. However her existing medication regimen featured venlafaxine which had been recently increased. Given the acuity of the patient's initial presentation she was admitted for inpatient treatment. We started this patient on valproic acid olanzapine and PRN lorazepam. Over the course of nine days the patient's condition worsened resulting in staff injuries due to aggressive behavior. The differential was broadened to include agitated catatonia and secondary causes of mania. However large doses of benzodiazepines proved ineffective. To ensure safety restrictive measures like seclusion and restraints were employed near-continuously. Treatment Approach: We recognized the complexity of the case and requested opinions from experts specializing in altered mental states. We decided to use this collaborative approach to ensure a comprehensive evaluation of the patient's condition leveraging the combined psychiatric and medical experience. We eventually consulted the medical ICU team who recognized the unusual nature of the case and agreed to accept the patient for a workup of medical causes of mania. In the ICU the patient was sedated using dexmedetomidine and propofol. Concurrently her mood stabilizer was transitioned to lithium and antipsychotic to chlorpromazine. Extensive medical evaluations including lumbar puncture and MRI yielded inconclusive results. Subsequent tapering of sedation led to gradual improvements upon her return to the



inpatient psychiatry unit. Literature Review and Conclusion: Literature highlights cases of mania necessitating sedation and ICU care. However consensus on the efficacy of sedation in treating mania remains elusive. This case underscores ethical dilemmas arising from staff injuries during patient care and the appropriateness of restrictive measures. The optimal timing of ICU transfer and the potential benefits of sedation warrant further investigation. The complexity of treating severe mania is evident in this case and it serves as a reminder of the critical need for collaborative research and systematic protocols involving both psychiatric and medical expertise.

Saturday May 04

### **Using Machine Learning to Predict Progression of Huntington's Disease in the Enroll Huntington's Disease (Enroll-HD) Periodic Dataset 6 (PDS6)**

*Shaan Kamal M.D.; Shakaib Khan; Luis Velez M.D.*

The Enroll Huntington's Disease (Enroll-HD) dataset is an international dataset collected from an ongoing observational study of Huntington's disease (HD) families across Europe North America Australia Asia and South America. With the latest dataset release the periodic dataset 6 (PDS6) including 25550 subjects is the most extensive observational study thus far for HD. The dataset includes CAG repeat lengths CAP scores UHDRS scores including total functional capacity scores and functional assessment scores symbol digit modality test scores and various psychiatric and neurological screening tools (i.e. Columbia Suicide Severity Rating scale verbal fluency test etc.) along with demographics information about the subjects including age

sex educational level and geographic region. Within the dataset 12991 participants were already showing clinical signs of HD at initial enrollment and 6551 participants had positive genotyping for HD but were not yet showing symptoms of HD 995 of which then were presenting clinically with symptoms of HD at follow-up later in the study. Machine learning can allow for large datasets to be processed and analyzed to create models that can discern underlying patterns and make predictions on unseen data. In this work we create Random Forest models in the Scikit-learn package that are trained on Enroll-HD PDS6 data to a) predict which subjects will move from pre-manifestation of clinical symptoms to manifestation of clinical symptoms along with the features within the dataset most predictive of this transition using classification models and b) predict progression in UHDRS scores for participants who already were showing clinical signs of HD on enrollment using regression models. In order to preprocess the data we first removed any participants with incomplete or missing data for UHDRS scores. We then used a nested cross-validation approach with ten inner and outer folds and no hyperparameter optimization to predict the above outcomes. We report accuracy specificity sensitivity and positive and negative predictive values for the classification model predicting participants that progress to showing clinical signs of HD. For the regression model predicting UHDRS scale scores we say mean absolute error the coefficient of regression (R2) mean squared error and root mean squared error. Although our results are in process and further model refinement is ongoing large-scale demographic and genetic data may be used to identify factors that predict the transition from pre-manifestation of HD to manifestation of HD along with the progression of the disease. Such models

could be used in the future to aid clinicians in providing patients with more information about what their disease progression may look like.

**Saturday May 04**

### **When The Earth Stood Still: the effects of COVID-19 on urban youth mental health.**

*Loren Odam M.A.; Vanessa Ocon; Humberto Baquerizo Ed.D.; Victor Mensah M.D.*

**Background:** The COVID-19 pandemic has led to a rapid and unprecedented change in societal behavior including stay-at-home orders school closures and the cancellation of significant holidays and celebrations. These changes have disproportionately impacted disadvantaged communities and contributed to an epidemic of mental health crises among youth. This study seeks to understand the psychosocial effects of the COVID-19 pandemic on the youth of Newark NJ. We hypothesize that individuals who participated in community activities during COVID-19 developed more protective factors in coping with mental health challenges. **Methods:** A focus group was conducted in Newark NJ in May 2023. The focus group included 43 youth and adolescent participants from surrounding communities. The participants were between the ages of 13 and 18 years old. A mental health professional moderated the focus group. The moderator began the focus group by introducing coping strategies and resilience. The focus group discussion lasted for 60 minutes. At the end of the focus group all participants were asked to complete a 50-item questionnaire. The questionnaire comprised 5 validated surveys on youth mental health self-efficacy and self-awareness. The participants were randomly assigned to two groups: the control and

experimental groups. The control group consisted of 24 participants. The experimental group consisted of 19 participants. The experimental group consisted of youth who had participated in a mentorship program. **Results:** Of the participants 72% identified as ethnically Hispanic/Latino while 34.9% identified as racially Black/African American. The majority of participants (57%) described themselves as economically disadvantaged. 79.1% of the youth surveyed indicated that the most stressful part of dealing with COVID-19 was feeling disconnected from friends and family and 72.1% stated loneliness and isolation. However students who received formal mentorship demonstrated higher levels of perseverance in the Rugged Resilience Measure (RRM) scale despite difficulties (42% vs. 29%) hope for the future (60% vs. 38%) rising to the challenge (42% vs. 21%) and finding meaning in life (47% vs 38%). While they have increased resilience the data also shows that about 60.47% of participants scored >21 on the Social Emotional Distress Scale-Secondary (SEDS-S) scale meaning that over 1/2 of them are classified as languishing meaning they are experiencing a lower quality of relationships. **Conclusion:** The COVID-19 pandemic has significantly impacted youth's mental health with social disconnection being a major contributing factor. This study found that 72% of focus group participants felt lonely or isolated during the pandemic and nearly 12% considered attempting suicide. These findings highlight the need for increased mental health support for youth and interventions to promote social connection.

**Saturday May 04**

### **A Health Needs Assessment of People Experiencing Homelessness in Central**

## **Wisconsin: Mental Health Needs Substance Use and Barriers to Care**

*Reilly Coombs M.S.; Alexandra Reischman  
M.D.; Robert Gouthro; Amy Prunuske*

Background: People experiencing homelessness face elevated risks of acute and chronic illnesses including mental disorders. Substance use is more prevalent among those who are experiencing homelessness than among those who are not. Unfortunately addiction may co-occur with psychiatric conditions further complicating living situations and adding additional stressors. This project aimed to assess the health needs and barriers to care of people experiencing homelessness in Central Wisconsin. Methods: A survey to assess health needs and barriers to care was developed by adapting a previous questionnaire incorporating changes recommended by individuals working in the field (Matzke et al. 2022). Surveys were distributed during outreach activities in Wausau Wisconsin and at local organizations that provide services to our unhoused population. Data was transcribed reviewed and descriptive statistics were calculated. Results: A total of 45 surveys were completed. Most participants identified as white non-Hispanic males (24 53%). Most participants were between the ages of 46-55 (14 31%). Common reasons for homelessness include addiction criminal history disability lack of affordable housing medical bills or family member death. 84% (38) of participants stated they have a mental health diagnosis yet only 31% (14) stated they see a mental health professional. 75% (9) of female participants stated they have a mental health diagnosis but only 33% (4) see a mental health professional. 86% (12) of minority participants stated they have a mental health diagnosis but only 14% (2) see

a mental health professional. 82% (37) of participants reported substance use. Of the participants that reported substance use the most commonly used were tobacco/nicotine products (34 92%) alcohol (17 46%) cannabis (17 46%) methamphetamine (8 22%) hallucinogens (4 11%) and cocaine (4 11%). 92% (11) of female participants and 71% (10) of minority participants stated they use substances. 47% (21) of participants stated they do not have access to harm reduction (clean needles fentanyl testing strips naloxone etc.). Barriers to health care included lack of housing cost transportation lack of a mailing address inadequate hours and disrespectful care. Conclusions: Individuals experiencing homelessness in Central Wisconsin have numerous complex health needs and face considerable barriers to care. The findings underscore the intricate interplay between homelessness substance use and mental health. A significant portion of the population reports chronic illnesses mental health diagnoses and substance use without adequate access to care. These multifaceted challenges necessitate comprehensive compassionate care emphasizing holistic and inclusive healthcare solutions and providing direction for future interventions.

**Saturday May 04**

### **Assertive Community Treatment (ACT) Psychiatry Clerkship Results: Quantitative Findings from a VCU School of Medicine Pilot Program**

*Andrew Pidutti; Jewel Washington; Tanner  
Nelson*

Introduction: Assertive Community Treatment (ACT) is an evidence-based multidisciplinary approach to mental health care that is designed to help individuals with severe and

persistent mental illnesses live successfully in the community (1). ACT teams typically consist of mental health professionals such as psychiatrists nurses social workers and case managers who work collaboratively to provide comprehensive and intensive services to clients. ACT has been shown to be effective in reducing hospitalizations improving housing stability and enhancing overall well-being for this population (2). However opportunities to gain exposure and experience in ACT during the core psychiatry clerkship are limited to very few medical schools in the country (3). A pilot program at Virginia Commonwealth University School of Medicine (VCU SOM) was started in 2022 to introduce students to ACT experiences during their 3rd year psychiatry clerkship. Last year's qualitative findings were shared at the 2023 APA annual meeting. In this paper we analyze the quantitative results of surveys administered to M3 students before and after participation in the 3rd year psychiatry clerkship ACT pilot program. **Methods:** Implementation at VCU SOM in partnership with Chesterfield Mental Health Services ACT team began in May of 2022. Evaluation includes pre and post mixed qualitative and quantitative surveys answering three questions on understanding of ACT and two interest questions in pursuing further community psychiatry opportunities. Two questions were also directed toward satisfaction with the program after completion. Answers were recorded on a Likert scale and analyzed through comparisons of means and ANOVA. **Results:** A total of 15 participants completed both pre and post surveys for the ACT experience during the psych clerkships organized in the 2022-2023 academic year. Comparison of means between pre and post survey for understanding of ACT and community psychiatry showed increases in

mean self-reported understanding (pre M= 3.49 SD= 1.02 post M= 4.51 SD = 0.54) while community psychiatry/ACT interest questions showed little change (pre M= 3.16 SD= 0.86 post M= 3.03 SD= 1.08). Pilot program satisfaction after completion of the program was very high (M= 4.79 SD= 0.58). ANOVA results of the data pool between pre and post survey results reveal the results are not statistically significant ( $F(1,14) = 1.056$   $p = 0.32$ ). **Discussion:** The 3rd year ACT pilot program at VCU SOM demonstrated increased understanding but no change in interest in ACT and community psychiatry. Participant perceptions upon completion were strongly positive about the program's quality. We hope that our pilot program framework can inspire other medical schools to create similar programs to improve the available data on the effectiveness of ACT experiences in promoting understanding and interest in community psychiatry.

Saturday May 04

### **Association Between Child Abuse Types and Suicide Attempt: A Case-Control Study of Depressive Adolescents**

*Michel Spodenkiewicz Ph.D.; Johanne Renaud M.D.*

**Background:** Increasing evidence suggests that child abuse is a modifiable risk factor strongly linked to suicide attempt among adolescents. While prior research has indicated that sexual and emotional abuse may exert a more pronounced influence on suicidal behavior than physical abuse or neglect in large community-based samples the precise impact of distinct forms of child maltreatment on suicide attempt within clinical samples of adolescents at higher risk of suicide remains unclear. This study aimed to investigate the relationship between

various types of childhood maltreatment and suicide attempt in adolescents diagnosed with depressive disorders. **Methods:** The investigation consisted in a cross-sectional case-control design comprising three distinct groups: adolescents diagnosed with depressive disorders who had attempted suicide adolescents with depressive disorders who had not attempted suicide and a control group of adolescents without any psychiatric disorder. The presence of psychiatric disorders was determined using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL) while depressive symptoms were evaluated using the Beck Depressive Inventory (BDI). Suicide attempts were assessed using the Suicidal History Questionnaire (SHQ) and childhood maltreatment experiences were assessed using the Childhood Trauma Questionnaire (CTQ). **Results:** The study included a total sample of 110 adolescents aged from 11 to 17 years: 38 adolescents with depressive disorders who had attempted suicide (Mean Age=15.84 Females=33) 33 adolescents with depressive disorders who had not attempted suicide (Mean Age=15.44 Females=25) and 39 adolescents without any depressive disorder (Age=14.85 Females=26) All categories of childhood maltreatment were more prevalent in the group of adolescents with depressive disorders who had attempted suicide. Particularly noteworthy was the significant difference in the CTQ child abuse score between the groups ( $p < 0.039$  Hedge's  $g = 0.57$ ) which exhibited the most substantial association with suicide attempt among adolescents. **Conclusion:** These findings underscore the detrimental influence of diverse forms of child abuse on suicide attempt among adolescents diagnosed with depressive disorders. This suggests the need for early

detection and intervention with particular emphasis on detection of a prior history of sexual abuse among adolescents with depressive disorders who have attempted suicide. The implementation of a systematic screening for such experiences using self-report questionnaires such as the Childhood Trauma Questionnaire holds promise as a valuable screening tool in clinical settings. It may contribute to decreasing stigma around reporting experiences of sexual abuse in adolescence as well as facilitating a comprehensive assessment. Ultimately it may contribute to prevent suicide in high-risk populations.

Saturday May 04

### **Bridging Gaps in Youth Mental Health: Insights from the MOST Program**

*Sebastian Acevedo M.P.H.; Daniella Colombo; Ozlem Gunal M.D. Ph.D.*

The APA Foundation funded this project as an APAF Helping Hands Grant awardee. ???????  
Background: Adolescent mental health disorders often emerge around 14 years of age with significant delays in treatment initiation. This issue is more acute in minority populations due to lower mental health literacy and higher stigma. The Moving from Surviving to Thriving (MOST) Program a community-based intervention in Newark New Jersey aimed to enhance mental health literacy and attitudes among high school students in underserved urban communities. Objectives: The study aimed to assess the impact of the MOST Program on reducing stigma and improving mental health literacy among urban adolescents with a focus on historically marginalized groups. Methods: The program involved a series of twice weekly workshops over a period of five weeks combining educational sessions with activity-



based components in partnership with United Community Corporation a local non-profit. Participants included 30 high school students who identified as either African American or Latino. Data were collected through pre- and post-surveys and a focus group was conducted for qualitative insights. Scales included the Peer Mental Health Stigmatization Scale (PMHSS) a 24-item 5-point Likert response scale that assesses beliefs about mental health with items relating to societal and personal stigma. Secondly youth mental health knowledge was assessed using the Mental Health Literacy questionnaire (MHLq) a 33-item scale that assesses beliefs about mental health in across three major factors: (1) Help seeking and first aid skills (2) Knowledge/stereotypes on mental health problems and (3) Self-Help Strategies Results: The intervention showed a significant reduction in stigma awareness indicating a positive shift in societal attitudes towards mental health. However there was no significant change in overall mental health literacy. Qualitative analysis highlighted a perceived externalization of mental illness in the community the importance of group-specific lessons and mixed feelings about discussing mental health. Limitations: The study faced challenges including a small sample size and difficulty in matching pre- and post-survey responses. This limited the robustness of the findings and their generalizability. Conclusions: The MOST Program demonstrates potential in reducing mental health stigma among adolescents living in urban communities. However the findings underscore the need for more comprehensive and culturally sensitive approaches to enhance mental health literacy. Future research should focus on larger matched samples and interventions

tailored to the cultural and interest-specific contexts of participants.

Saturday May 04

### **COVID-19's Impact on Quality of Life: A Comparative Study of Daegu Citizens with and without Suicidal Ideation**

*Tae Young Choi M.D.; Jonghun Lee; Yun Woo An; Hyanghee Jeong*

Background: The COVID-19 pandemic has exerted a profound influence on the quality of life (QoL) of individuals worldwide. Daegu a major city in South Korea faced significant public health challenges during this period. Aims of this study were to explore the changes in QoL among Daegu citizens over three pivotal years: 2018 (pre-pandemic phase) 2020 (pandemic phase) and 2022 (post-peak phase) focusing on differences between those with and without suicidal ideation. Methods: Daegu citizens were enrolled annually in 2018 2020 and 2022 (N=709 1158 898 respectively) considering regional gender and age proportions. Suicidal ideation was determined by a yes/no question regarding suicidal thoughts during the past year. 2018 2020 and 2022 were defined as the pre-pandemic pandemic and post-peak phase of COVID-19 respectively. QoL was assessed using the World Health Organization Quality of Life: Brief Version which consists of physical health psychological social relationships and environment domains. A multivariate analysis of covariance (MANCOVA) was conducted to examine the main effect of suicidal ideation group phases of COVID-19 and interaction effects between the suicidal ideation and phases adjusting for age education marital status and income. Results: In 2018 2020 and 2022 59 (8.3%) 245 (21.2%) and 71 (7.9%) individuals reported suicidal ideation

respectively. MANCOVA revealed a significant main effect of suicidal ideation on QoL [F(42752)=69.99 p<0.001]. Post-hoc analysis showed significant effects of suicidal ideation on all domains of QoL. There was also a significant main effect of phases of COVID-19 on QoL [F(85504)=4.62 p<0.001]. Post-hoc analysis indicated significant effects of phases on QoL for all domains except the environment domain. More importantly interaction effect of suicidal ideation with phases of COVID-19 was found to be at trend level [F(85504)=1.89 p=0.057]. Post-hoc analysis revealed a significant interaction effect only in the physical health domain [F(22755)=3.53 p=0.030] which means that while in all three phases suicidal ideation group reported a lower QoL in the physical health domain than non-suicidal ideation group the difference in QoL between these two groups was less pronounced in pandemic phase compared to the other phases of COVID-19. Conclusion: The COVID-19 pandemic notably affected the QoL of Daegu citizens. Individuals with suicidal ideation consistently reported a lower QoL across the COVID-19 pandemic. However compared to pre-pandemic and post-peak phase the disparity in physical health domain of QoL between those with and without suicidal ideation was less distinct in pandemic phase. These findings suggest that global events like the COVID-19 pandemic can blur the traditional QoL differences according to the suicidal ideation especially during their pandemic phase highlighting the broad impact of such crises on the general population's well-being.

Saturday May 04

### **Defining School Truancy: A closer look at school truancy in Nassau County**

*Albulena Ajeti BS; Simarpreet Kaur; Megan Go M.D.; Fartun Aliduux M.D.; Samantha Goldstein*

Background: School truancy is rising among pre-kindergarten through twelve grades throughout the U.S. Literature has yet to have a universal definition for school truancy. School truancy broadly encompasses lack of attendance for >2 weeks out of the school year. However the lack of consistent reporting analysis and treatment results in a lack of preventative measures undertaken. For example school truancy has been linked with the juvenile and family court systems. Methods: Review of available literature and evaluations of juvenile case reports from Nassau University Medical Center. Results: Current working definitions of school truancy range from 15 missing days as defined by the Midwest to 18 missing school days as defined by Allen. Despite the lack of universal guidelines for school truancy research indicates that attending school can alleviate the involvement of court systems with students and their families (McNeely2019). There were 6.8 million students from pre-kindergarten through 12th grade who were chronically absent from school (Allen2018). Working reasons leading to school truancy include traumatic life events (Hargarve2022) co-diagnosis of anxiety and phobic disorders (Berg1997) and parental disengagement (Filkin2022). Additionally strong correlations were found between school truancy and misconduct and arrests in the youth (Craig2020). Current preventative measures are dependent on states and counties. The Midwest in the United States has a Truancy Intervention Program (TIP) for students between grades 7 and 10 (McNeely2019). As per TIP if three unexcused absences exist the student and parent receive a letter indicating the need for better school attendance. Should the student continue to miss five days

there is a referral to an attorney who indicates the parent and child must attend group-parent meetings at school. If the student continues to miss ten days there is a SART meeting between the parent child school and county attorney. At the meeting there is an agreement created to improve the child's school attendance. Should the child continue to miss 15 days of school a petition is sent to the juvenile court (McNeely2019). Similarly to prior research conducted the effectiveness of TIP is not known. Evaluation of (n=10) case reports at Nassau University Medical Center indicate school truancy to be linked with gang affiliation particularly MS-13 (n= 3) suspension due to violent behavior (n= 4) and bullying (n=3). Conclusion: The lack of systematic working definitions and limited availability of classification assessment and treatment of school truancy doesn't allow for universal guidelines in undertaking current challenges regarding the millions of children presenting within the court system due to school truancy. We propose a longitudinal study within Nassau County to understand better the causes and effects of school truancy within the court system. We aim to provide guidelines for these students.

Saturday May 04

### **Digital game-based English learning for Korean children with problematic behaviors in school**

*Eun Kim M.D.; Wooyoung Im; SUNGAH CHUNG; Beomwoo Nam; Hyunchan Hwang*

Introduction: Most commonly addressed student behavioral issues in classrooms are related to anxiety learning problems and attention deficit. Academic performance is negatively correlated with disruptive behavior and low academic performance. Furthermore poor cognitive abilities could predict a higher

risk of disruptive behavior. For such students language skills training can improve self-discipline and problematic behavior. For students with behavioral issues we hypothesized that computer game language training could be more effective than classical language training. In addition the improved language skills could be associated with improved problematic behaviors. Method: A total of 38 Korean students including 18 third-graders (Group 1) and 20 fourth-graders (Group 2) from Anseong Wongok Elementary School participated in the study. Each student underwent psychological assessments using Center for Epidemiological Studies Depression Scale for Children (CES-DC) the State Subcategory of State-Trait Anxiety Inventory for Children-State (STAIC-S) Korean Child Behavior Checklist (KCBCL) and Korean Attention Deficit Hyperactivity Disorder Rating Scale (K-ARS) along with selective tests for behavioral problems. Wise-Ax English™ was used designed as an interactive English vocabulary educational game consisting of two phases: game rounds and control rounds in a cross-research design. Results: In the game group it was possible to predict English test score improvements with higher levels of behavioral issues increased anxiety and higher game stages. In the control group higher grade levels predicted English test score improvements. In all rounds English test scores in the game rounds significantly increased compared to the control rounds (F=15.17 p<0.001). In Group 1 English test scores increased during the game rounds but not during the control rounds (z=2.91 p<0.01). Conclusion: These findings suggest that computer game-based language training holds promise as an effective approach for students with behavioral issues. It not only enhances language skills but also correlates with improvements in self-control and

reduction in problematic behaviors. Further research should investigate whether game-based training is effective not only for language but also for other educational subjects in students with behavioral problems.

Saturday May 04

### **Dynamic Deconstructive Psychotherapy for Suicidal Adolescents**

*Rebecca Shields; Jessica Helfrich; Rachael Kuch-Cecconi; Robert Gregory*

**Introduction:** Dynamic deconstructive psychotherapy (DDP) is a treatment model originally developed and tested in adults with borderline personality disorder and recently successfully extended to treatment of suicidal adults with or without personality disorders. The present study further extends the application of DDP to suicidal adolescents examining the naturalistic outcomes of DDP in this population.

**Method:** The sample included 43 consecutive adolescents treated at the Psychiatry High Risk Program an outpatient specialty program for youth at high risk for suicide that uses weekly DDP as its core required treatment. Age range was 13-17 with mean of 15.84 ± 1.19 years. The primary outcome was the change over 6 months in a combined suicide ideation score that adds item 9 of the PHQ-9 to C-SSRS ideation scores. **Results:** 27 clients (63%) completed at least 6 months of treatment with DDP. In the intent-to-treat sample suicide ideation substantially decreased over 6 months ( $Z = 3.42$   $p < .001$   $d = 1.60$   $CI .99-2.21$ ). On secondary outcomes suicide attempts decreased by 86% self-harm by 89% emergency room visits by 69% and hospitalizations by 70% over 6 months of treatment. **Conclusions:** Adolescent suicide is a global public health concern.

DDP appears to be a promising treatment for adolescent suicide prevention. Further research is indicated directly comparing DDP to other treatments for suicidal adolescents and to conduct a cost effectiveness analysis.

Saturday May 04

### **Effect of Meditation or Escitalopram on Work Performance in Patients with Anxiety Disorders**

*Sruveera Sathi MS MD; Anna Oft; Samantha Philip; Xue Geng; Elizabeth Hoge*

**Background** Anxiety disorders are some of the most prevalent mental health conditions among the working population and are associated with substantial economic costs amounting to billions of dollars. Mounting evidence suggests that the presence of an anxiety disorder can significantly affect an individual's overall work performance measured by factors such as workplace absenteeism—defined as missing time off work—and presenteeism—conceptualized as the loss of work productivity or working below full capacity while at work. **Objective** This study aimed to 1) examine how psychopharmacotherapy and mindfulness-based stress reduction (MBSR) influence absenteeism and job performance among individuals with anxiety disorders and 2) compare the effectiveness of these treatments in improving work performance. **Methods** The present study uses data collected during the Treatment for Anxiety: Meditation vs. Escitalopram (TAME) study a randomized controlled trial. Adults (N=67) with a primary anxiety disorder were recruited at the three following sites: Georgetown University Medical Center New York University Langone Health and Massachusetts General Hospital. Participants were randomized to

escitalopram a common treatment for anxiety disorders or MBSR. Absenteeism and job performance were measured with the Health and Work Performance (HPQ) questionnaire before treatment and at the week 24 follow-up. Results At week 24 individuals in the escitalopram arm and the MBSR arm showed significant improvements in partial days of missed work due to mental/physical health problems from baseline (1.00 [0.00-2.50] to 0.00 [0.00=1.00]  $p=.034$  and 0.00 [0.00-2.00] to 0.00 [0.00=1.00]  $p=.001$  respectively). In the MBSR arm only job performance increased from baseline to week 24 (65.00 [50.00-80.00] to 75.00 [67.50-82.50]  $p=.017$ ). None of the outcome variables significantly varied by group at baseline or week 24. Conclusions Our study finds evidence that MBSR improves work performance equivalently to SSRI medication among individuals with anxiety disorders. Given the limitations of SSRIs MBSR should be considered as an alternative to individuals who desire improved anxiety symptoms and work outcomes.

Saturday May 04

### **Efficacy of Resident-Led Crisis Intervention Training (CIT) on Houston-Area Police Officer Education and Management of Psychiatric Disorders**

*Youssef Ahmed; Rachel Stroh; Dania Albaba M.D.; Nancy Shenoi; Somto Obi*

Background: Over the past 30 years research has focused on the burgeoning liaison between police and mental health professionals through Crisis Intervention Training (CIT). Our study aims to analyze the efficacy of a mental health education course designed by psychiatry residents for Houston-area police officers receiving behavioral health training. Methods: Psychiatry resident

physicians from Baylor College of Medicine provided 90-minute interactive live-teaching format lectures for police officers in the Harris County Sheriff's Office. Inclusion criteria were all police officers who attended mental health training sessions. Exclusion criteria were officers who declined to participate. Pre- and post-course surveys utilizing Likert scales were administered in paper format to assess knowledge base on psychiatric terminology and mental illness recognition. Results were analyzed using Qualtrics and Excel 365 and a two-sample t-test was performed to compare response averages. Results: Police officers ( $n=99$ ) who completed the course consisted of 75% male 24% female and 1% non-binary gender. 41% of officers were Black/African American 36% were Hispanic/Latino 20% were White/Caucasian and 3% were Asian/Native American/other. Before the course there was a significant relationship between knowing someone with schizophrenia and the attitude that patients with schizophrenia have less propensity to commit violent crime ( $p<0.05$ ). Similarly among those police officers receiving or having received psychiatric treatment attitudes indicated less perceived likelihood of aggression in patients with schizophrenia as opposed to the same or more in those without schizophrenia ( $p<0.05$ ). Officer attitudes significantly changed following the course with the perception that patients with schizophrenia are less likely to be violent or aggressive post-survey (Likert scale mean 2.95) rather than pre-survey (3.72) ( $p<0.05$ ). 92-99% of police officers reported increased confidence in de-escalating situations involving patients with schizophrenia and substance use disorders facilitating their admission to mental health facilities and communicating about them with healthcare professionals. There was an improvement in officers' comfort levels in



addressing and referring individuals with schizophrenia and substance use disorders for psychiatric care with Likert scores rising from 3.04 pre-training to 3.67 post-training ( $p < 0.05$ ). Discussion: Our course has shown promising shifts in perceptions among police officers towards patients with schizophrenia substance use disorder and other psychiatric illnesses. The limitations of this study include potential self-report bias and the lack of generalizability to all police departments. Furthermore the study did not assess the long-term impact of the training on officers' attitudes and behaviors. Future directions include assessing larger samples of police officers with specific regard to other mental health conditions.

Saturday May 04

### **Factors affecting fear of COVID-19 infection in healthcare workers at COVID-19 dedicated teams: Focus on professional quality of life**

*Jongbin Kim*

Background: Fear of coronavirus disease 2019 (COVID-19) infection is particularly significant for healthcare workers (HCWs) due to their increased exposure to viral transmission at the forefront of the battle against the pandemic. This study examined factors related to high fear of COVID-19 infection in HCWs at COVID-19 dedicated teams and the association between COVID-19 infection fears and professional quality of life. Methods: This study used an online (Google Forms) questionnaire administered by the Jeju Mental Health Welfare Center in South Korea to collect data on negative psychological states related to COVID-19. Fear of COVID-19 infection was assessed using the COVID-19 Infection Fear Scale (CIFS) and professional quality of life was

assessed using the Professional Quality of Life Scale 5 (ProQOL-5). A total of 371 HCWs were classified into high (COVID-19 infection fear score  $\geq$  75th percentile) intermediate (25th percentile  $\leq$  score  $<$  75th percentile) and low (score  $<$  25th percentile) COVID-19 infection fear groups. We compared characteristics associated with COVID-19 infection fear levels among the three groups and investigated factors associated with COVID-19 infection fear. Results: Higher COVID-19 infection fear was significantly associated with being a woman and poorer professional quality of life. Multivariate logistic regression analyses of factors associated with high COVID-19 infection fear using the low fear group as the reference. Of the demographic variables being a woman was significantly related to high COVID-19 fear ( $P = 0.004$  model 1). In model 2 which included all variables being a woman (adjusted odds ratio [aOR] 3.562 95% confidence interval [CI] 1.313–9.665  $P = 0.013$ ) age in the 40s (aOR 2.494 95% CI 1.093–5.692  $P = 0.030$ ) and high burnout level (aOR 1.146 95% CI 1.025–1.281  $P = 0.017$ ) were significantly associated with high COVID-19 infection fear. Conclusions: Based on results COVID-19 infection fear can have a negative effect on the professional lives of HCWs leading to reduced work ability. Implementing a plan to lower COVID-19 infection fear among HCWs is crucial for their well-being job satisfaction and ability to provide effective care. Keywords: COVID-19; Fear; Healthcare workers; Professional quality of life

Saturday May 04

### **Inpatient Hospital Stay Duration by Suicide Attempt Method: A Retrospective Cohort Study**

*Steven Sprenger M.D.; Gerardo Corsi M.D.; Alexandre Koumtchev M.D.; Jeffrey Anderson; Manpreet Bindra D.O.*

Background: Suicide attempts are a psychiatric emergency necessitating psychiatric admission for observations and stabilization. Admission duration varies greatly according to physician assessment of risk. Suicide attempt methodology may influence hospitalization duration. Readmission rates may serve as an outcome measure for treatment of patients following inpatient admission. There is a paucity of data that confirms that higher risk suicide attempts have longer length of stays. There has also been little data examining the effect of duration of hospitalization on the outcomes measure readmission rate. The purpose of this study was to explore the consequences of suicide method and comorbid personality disorder on LOS and readmission rate. Methods: Inpatient records from the HCA database were reviewed from January 1 2019 to December 31 2021 to identify unique patients who attempted suicide. Suicidal method length of stay 90-day readmission rate race gender and personality disorder data were extracted. A One-Way ANOVA was administered to investigate the impact of suicide method on LOS. Significance was determined when P-values < 0.05 at the ? level of 0.05. Logistic regression was used to assess the association of suicide method ethnicity personality disorder and race on 90-day readmission. Odds ratios and 95% confidence intervals were used to determine significance. Results: A total of 5814 patients were assigned by attempt means into 368 alcohol use 285 Benzodiazepine/sedative use 289 illicit substance use 741 prescription medication abuse 857 trauma 51 firearm/explosive use 42 hanging/suffocation/asphyxiation and 3181

unspecified suicide attempts. Significant differences in length of stay were observed. Suicide attempt via firearms had significantly higher length of stay than medication use (p=0.0261) benzo use (P=0.0023) illicit substance use (p=0.0360) alcohol use (p=0.0010) trauma (p<.0001) and other methods (p=0.0007). The highest length of stay was seen in patients who attempted suicide with firearms (7.55 days) and the lowest was among patients who attempted with alcohol (2.35 days). When looking at outcomes: 37.3% of firearm use 22.3% of alcohol use 26.0% of benzodiazepine use 23.8% of the hanging/suffocation/asphyxiation 26.3% of the illicit substance use 27.4% of trauma 22.1% of prescription medication abuse and 25.7% of the unspecified attempt patient had a readmission in 90 days. Patients with personality disorders had significantly higher odds of readmission (OR=1.517 95% CI=1.125-2.044 p=0.0062). Conclusion: In a large patient population from 2019-2021 patients attempting suicide via firearm use had the longest length of stay with no improvement readmission rates. Further research is needed to determine if variation in length of stay by attempt means correlates with actual or perceived risk.

**Saturday May 04**

### **Predictive Factors of Co-occurring ADHD and Autism Spectrum Disorders: Insights from National Inpatient Sample from the US Hospitals**

*Shreya Mishra; Azka Iqbal; Lalitha Pallemati; Divya Aishwarya Gandhi; Sanobar Jaka M.D. M.P.H.; Harshita Ganga*

Objective: To evaluate the impact of demographics and comorbidities on the likelihood of autism spectrum disorders

(ASD) ADHD or ASD+ADHD in children. Methods: We used 2018- 2019 national inpatient sample and included 107315 psychiatric inpatients (age 3-17). We compared variables across cohorts using the linear-by-linear association test. We estimated the association between demographics and comorbidities and the odds ratio (OR) of co-occurring ASD+ADHD compared to the ASD/ADHD-only cohorts. Results: ASD+ADHD was majorly constituted in adolescents (81%) males (78.5%) and White (81%); ASD+ADHD was not seen in preschoolers. Intellectual disability (ID) speech/language disorders eating disorders and DMDD were higher in ASD+ADHD (6% 2.5% 4.6% 29.2% respectively) compared to ASD/ADHD-only. No genetic disorders were co-diagnosed in the sample except Klinefelter's syndrome (0.5% in ADHD). Predictors of ADHD in ASD cohort included male (OR 1.85) and comorbid ODD (OR 1.79) DMDD (OR 2.16) and eating disorders (OR 2.55). Predictors of ASD in ADHD cohort included male (OR 3.03) and comorbid ID (OR 1.43) speech/language disorders (OR 2.13) eating disorders (OR 2.07) and epilepsy (OR 1.66). ASD+ADHD had higher likelihood of obesity and hypertension by 1.5-2 times than ASD/ADHD-only cohorts. Loss of functioning was significantly higher in ASD (26.4%) and ASD+ADHD (23.9%) vs. ADHD (9.5%). Conclusion: Our findings point to predictive factors including comorbidities like ID epilepsy and speech disorders seen in co-occurring ASD+ADHD. Prevalence of ASD+ADHD (1.3%) was low and under-represented in preschoolers females and minorities. Future research should focus on understanding the disparities in diagnoses of neurodevelopmental disorders and guidelines for equitable care.

Saturday May 04

## **Proinflammatory Cytokine Levels Cognitive Function and Suicidal Symptoms of Adolescents and Young Adults with Major Depressive Disorder**

*Muhong Chen*

Background: Whether proinflammatory cytokine dysregulation and cognitive dysfunction are associated with suicidal symptoms in adolescents and young adults with major depressive disorder (MDD) remains uncertain. Methods: We assessed the cognitive function and proinflammatory cytokine levels of 43 and 51 patients aged 15–29 years with MDD and severe and mild suicidal symptoms respectively as well as those of 85 age- and sex-matched healthy controls. Specifically we measured serum levels of C-reactive protein tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) interleukin-2 and interleukin-6 and assessed cognitive function by using working memory and go/no-go tasks. The severity of the patients' suicidal symptoms was based on Item 10 of the Montgomery-Åsberg Depression Rating Scale; scores of  $\geq 2$  and  $\geq 4$  indicated mild and severe symptoms respectively. Results: The patients with MDD and severe suicidal symptoms had higher levels of C-reactive protein ( $p = .019$ ) and TNF- $\alpha$  ( $p = .002$ ) than did the patients with mild symptoms or the healthy controls. The number of errors committed on the go/no-go by patients with MDD and severe suicidal symptoms ( $p = .001$ ) was significantly higher than those by patients with MDD and mild symptoms or by controls. After adjusting for nonsuicidal depressive symptoms we observed suicidal symptoms to be positively associated with TNF- $\alpha$  levels ( $p = .050$ ) and errors on the go/no-go task ( $p = .021$ ). Discussion: Compared with mild suicidal symptoms severe symptoms are associated with greater serum levels of proinflammatory

cytokines and inferior cognitive function in adolescents and young adults with MDD.

Saturday May 04

### **Study of Cognitive Reserve in Adolescent Cannabis Consumers: Description of the Protocol and Preliminary Results**

*Juan Ignacio Mena Garcia; Iñaki Ochandiano Recio*

**Introduction** Given the increasing prevalence of cannabis consumption among adolescents and its impact on mental health there is a need to identify individuals more susceptible to its harmful effects. Cognitive reserve (CR) is the brain's ability to withstand brain damage without manifesting symptoms of impairment. This approach is particularly interesting for identifying susceptible individuals during vulnerable stages such as adolescence. **Objectives** To describe the study protocol and preliminary results obtained by assessing Cognitive Reserve (CR) and global functioning in a sample of adolescents diagnosed with cannabis use disorder as well as its influence on psychopathology functioning neuroimaging and cognitive performance. Cognitive reserve was assessed using the Cognitive Reserve Questionnaire for Adolescents (CoRe-A) developed by the Child and Adolescent Psychiatry and Psychology Service at Hospital Clínic in Barcelona after a systematic review conducted to identify the components of cognitive reserve and assess their suitability relevance and clarity. The CoRe-A evaluates some aspects considered essential in the cognitive reserve construct such as education and occupation sociability academic performance and development as well as leisure activities. **Materials and Methods** The study protocol is described utilizing the CORE-A scale to assess CR and

the GAF scale to evaluate global functioning among others. Statistical analysis was conducted to examine the association and correlation between CR and GAF with defined clinical variables. **Results** A total of 12 participants 58.33% female with an average age of  $16.5 \pm 1.00$  years were included. The majority of the sample fell into the low CR group (90%) with nearly 50% exhibiting low functioning. An association was observed between low global functioning and positive psychotic and manic symptomatology global clinical severity and poorer adherence to the Mediterranean diet. **Conclusions:** The preliminary sample indicates a significant low CR. Identifying individuals with low CR and a risk of psychopathology could guide more effective and precise preventive and therapeutic programs.

Saturday May 04

### **The Black Church & Mental Health: In The Era of COVID-19 & Black Lives Matter**

*Joryan Franklin MPH; Devin Cromartie MD MPH*

**Issues:** Since COVID-19's inception and heightened visibility of the brutality against Black bodies Black Americans have reported higher prevalence of depression symptoms of trauma- and stress-related disorders and substance use. Therefore a targeted approach to address mental health is warranted to combat the growing disparity affecting the Black population. One methodology utilized to improve health outcomes in disenfranchised communities is Community Based Participatory Research (CBPR). **Description:** Employing the context of the COVID-19 pandemic and exposure to racial stress and trauma this research aspires to improve mental health outcomes in the Black community of Boston through the

mobilization of Black Churches. Buy-in from senior pastors of three historically Black churches in the Roxbury community of Boston and recruitment of Community Advisory Board members from each church were obtained. Progress was measured by the number of meetings conducted meeting attendance audio recordings and notes from each meeting. Planned milestone products included a CAB Charter Needs Assessment plan and a preliminary Sustainability Plan. Using CBPR we endeavored to foster equity self-efficacy and trust in the design execution and dissemination of research. Lessons Learned: As a result a church needs assessment is being implemented in partnership with the CAB and the relationship between the churches and the academic hospital has been strengthened. This research has contributed to existing church wellness programs resulting in the churches expressing interest in more mental health-related programming and assistance. Recommendations: In partnership with the CAB an intervention based on the findings of the needs assessment will be developed.

Saturday May 04

### **Unveiling the Psychological Toll: Exploring the Impact of Detention Centers on the Mental Health of Asylum-Seeking Children in the United States**

*Victoria Miller; Alyssa Reese; Jasmin Gill; Afreen Siddiqui; KIM GRISWOLD*

Background: Families experiencing persecution in their home countries have the opportunity to seek asylum in the United States. Upon their arrival many asylum-seekers are placed in detention centers. Similar to their adult counterparts pediatric asylum seekers experience the conditions and psychological impact associated with

detainment. The purpose of this study was to investigate how detention centers in the United States impact the mental health of asylum-seeking children. Methods: A systematic review was conducted using PubMed EMBASE and Web of Science to identify publications using the following search terms: ('migrant' OR 'immigrants' OR 'asylum seekers' OR 'refugee') AND detention AND ('mental health' OR 'psych') AND ('youth' OR 'child' OR 'adolescent'). Three hundred seventy-two articles were retrieved and duplicates were removed resulting in 230 unique articles. Articles were included if there was a discussion of mental health in pediatric asylum seekers. Results: Thirty-one articles were included and screened for common themes and mental health conditions in the pediatric population of asylum seekers. Of the selected papers PTSD (N=24 77.4%) general emotional and behavior issues (N=23 32.3%) major depressive disorder (N=20 60.4%) anxiety disorder (N=18 58.1%) and suicidal ideation (N=11 35.5%) were the most prevalent diagnoses mentioned. The children seeking asylum are confined to detention centers that have been described as having inhumane conditions. In some cases children are forcefully separated from their families. The findings suggest that the mental well-being of children is heavily influenced by the challenges they have faced in their journey to America as well as the experiences they endure within detention centers. Conclusion: Children and adolescents in detention centers have an increased risk of experiencing PTSD depression and suicidal ideation. These mental health disorders may be exacerbated by the conditions within detention centers. Addressing this psychological toll and mitigating the endured trauma is critical for the development of this pediatric population.



This research study had no funding or financial involvement.

Saturday May 04

### **Youth Exposure to E-Cigarette Content on Instagram: How Effective are Current Regulatory Policies?**

*Jessica Tran BS; Lily Nguyen B.S.; Joseph Shotwell M.D.*

Background: E-cigarettes including vaping products synthetic nicotine products and other ENDS (electronic nicotine delivery systems) are promoted extensively on visual-based social media platforms such as Instagram. Evidence suggests that social media e-cigarette exposure is associated with increased e-cigarette use especially among youth. While other studies have analyzed e-cigarette related content on Twitter TikTok and Instagram few studies have analyzed such content on Instagram after the implementation of branded content policies in 2019 that prohibit the promotion of e-cigarettes. Aims: To determine creator type content type engagement rate accuracy of information marketing strategies and adherence to federal regulation policies of posts on Instagram related to ENDS. Methods: ENDS-related Instagram posts were queried in December 2023 using a new female 14-year old Instagram profile in an incognito web browser with the following hashtags: #vaping #vapelite #vapestagram #vapefam #eliquid #ejuice #ecig #vapenation #vapelyfe and #vapecommunity. The top 27 publicly available posts from each hashtag were pre-selected yielding a total number of 270 posts. After exclusion (duplicate not in English unrelated) a total of 51 ENDS-related posts from Sep-Dec 2023 were analyzed. Two reviewers independently assessed each post for level of engagement accuracy of

information presence of health-related warnings overall depiction of e-cigarette use and common themes. Results: Two-thirds of posts (n=34) had a positive portrayal of e-cigarette use while 1 in 4 posts (n=12) had a negative portrayal. 58.8% (n=30) of posts were promotional and 27.5% (n=14) were educational. Common marketing strategies included appeals to aesthetics lifestyle youth culture humor and emotion. Posts that appealed to humor and lifestyle had the highest level of engagement (7.1% and 6.9% respectively). Two-thirds of posts (n=34) did not contain warnings regarding age restriction or the addictive potential of nicotine violating FDA regulations. Nearly half of posts (n=23) were shared by vape ambassadors reviewers or shops violating Instagram's branded content policy. Conclusion: Despite regulatory policies adolescents are routinely exposed to promotional ENDS-related content on Instagram. The majority of ENDS-related content violated FDA and Instagram content policies. Effective age restrictions and better enforcement of regulatory policies are needed to minimize youth exposure to promotional content. These findings highlight the need for more educational content tailored toward youth using effective marketing strategies such as appeals to humor and lifestyle to increase youth engagement.

Saturday May 04

### **"I'll call for pen and ink and write my mind:" A Review of Physiological and Neural Effects of Narrative Medicine**

*Elizabeth Hofman MFA*

"I'll call for pen and ink and write my mind:" A Review of Physiological and Neural Effects of Narrative Medicine Objectives: Numerous healthcare professionals reference patient

narratives to better understand their patients' and families' perspectives and needs to provide more personalized patient care. This review explores the various modes of patient narratives their uses in pediatric and adult populations physiological and neural effects of the narrative process and their higher physiological psychological and societal impacts. Methods: This literature review references sources that were limited to journals written in English mainly regarding patient experiences and narratives about healthcare health complications and mental health. Terms included: mental health stories neuroscience and storytelling storytelling therapy narrative medicine narrative psychiatry and stigma. Multiple databases were used including PubMed CINAHL Complete and Boxer LibrarySearch (Searches multiple databases at once including MEDLINE AccessMedicine CINAHL PsycINFO and more). Results: Multiple modes of patient narratives were found to be beneficial in improving communication among patients their families and healthcare providers. The mediums of patient narratives include but are not limited to graphic phenomenological poetic and theatrical narratives. Storytelling reduces stress in patients as evidenced through reduced cortisol and increased oxytocin levels in hospitalized patients engaged in storytelling compared with subjects engaged in a puzzle game. fMRI studies also show that storytelling/listening unsurprisingly increases activity in the prefrontal cortex where imagination and cognition take place but also in the anterior insula anterior cingulate cortex somatosensory cortex and amygdala where the brain processes nociceptive information and threat signals. Studies also revealed neural alignment in which storytellers and story listeners have mirroring brain activity. These studies suggest storytelling might

increase empathy in listeners. The literature shows empathy in medical personnel provides psychological benefits such as improved communication and self-confidence and has the ability to create positive health outcomes safer communities and better quality of life on a societal level. Conclusion: This literature review revealed the connection between internal physiological and neural processes and external interactive relationships in the context of narrative medicine. Patient narratives not only represent patients' experiences with illness and recovery processes but also provide their life contexts. As a relatively inexpensive intervention when compared to medication or procedures storytelling shows potential to provide numerous physiological psychological and societal benefits.

Saturday May 04

### **A Rare Case of Severe EPS Stiffness in CYP1A2 Ultrarapid Metabolizer of Haloperidol**

*Jonathan Tringali M.D.; Bo Ram Yoo; Monish Parmar; Meriam Naqvi*

Objective: Both extrapyramidal symptoms (EPS) and neuroleptic malignant syndrome (NMS) are risks and life-threatening emergencies associated with antipsychotic medications. NMS typically presents with rigidity fever and autonomic instability. EPS includes symptoms including but not limited to: akathisia parkinsonism tremors and dystonia some of which may present similarly as NMS. Although EPS and NMS have overlapping symptoms our case indicates the importance of identifying the etiology of a patient's symptoms as it can determine management and the clinical course. Methods: A 31-year-old male with a history of

schizophrenia presented to the emergency department one week after being hospitalized at an inpatient psychiatric hospital where he received a long-acting injectable of haloperidol decanoate and oral benztropine. He presented with symptoms of severe bilateral upper and lower extremity rigidity diaphoresis and tremors. Of note he had intermittent elevated blood pressures throughout his admission and was afebrile. Patient's lab results were only notable for a mildly elevated CK 866 on admission mild transaminitis (AST 66 ALT 114 T. Bili 1.4) and serum haloperidol level 4 ng/mL. He was initially treated with trials of lorazepam which resulted in severe lethargy. At the time of his admission there was suspicion for NMS. As a result of this concern his antipsychotic medications were held and he was treated with bromocriptine and dantrolene resulting in mild improvement. Upon further review of his previous notes it appeared that he exhibited EPS symptoms while taking oral haloperidol which subsequently improved with benztropine during his prior psychiatric admission. With that said benztropine was restarted. Results: After restarting benztropine the patient resulted in a significant improvement in his symptoms. Prior to his discharge the patient was alert ambulating and eating independently. GeneSight testing was performed given his severe EPS symptomology with haloperidol level of only 4 ng/mL. Testing demonstrated he is a CYP1A2 ultrarapid metabolizer thus explaining his low haloperidol level. Today he continues to do well in outpatient clinic on a regimen of aripiprazole benztropine and clonazepam. Conclusion: NMS can present with the following symptoms: muscular rigidity dystonia akinesia mutism obtundation hyperthermia diaphoresis and increased blood pressure which were consistent with the patient's initial presentation. Of note

While NMS is rare (0.01-0.02%) mortality rates rise to 10-20% when long-acting injectable antipsychotics are involved. This concern resulted in the patient's treatment to be directed towards treatment of NMS including dantrolene and bromocriptine. When his symptoms were unresolved despite conventional treatment of NMS it led to a change in his suspected diagnosis to EPS and treatment with benztropine resulting in a rapid resolution of his symptoms.

Saturday May 04

### **Adolescent Runways and Risky Sexual Behaviors: A Case Series**

*Sherina Langdon M.D.; Sarah Noaman; Afra Rahman; Fariha Hossain*

Background: Between 1.6 and 2.8 million youth run away from home each year in the United States and adolescent females are at increased risk. Previous research suggests that running away and homelessness increase the odds of sexual debut sexual assault and risky sexual behavior among adolescent females. This case series focuses on the predisposing factors as well as potential interventions for runaway children and adolescents who presented with the complaint of running away within the last two years. Methods: A retrospective chart review of (111) child and adolescent patients (17 years old and younger) who presented to Brookdale Hospital Medical Center with the complaint of running away between 2021 and 2023 was performed. Items analyzed included Pediatric Emergency Department and Pediatric Comprehensive Psychiatric Emergency Program diagnoses and chief complaints of runaway running away behavior involving running away victim of human trafficking as well as the demographic profile and risks of running away. Results:

The analysis included 111 male and female runaway youth who were 17 years old and younger (mean age= 13 median age= 14 62.1% female 37.8% male). Fifteen-year-olds were more likely to run away (mode age= 15) youth under 11 were less likely. Defiant behavior was the most common predisposing factor for runaway male and female youth (n= 46 41.4%). Sexual behavior was the most common predisposing factor for runaway female youth (n= 34 49.3%) followed by Family Instability (n= 16 23.2%) and Defiant Behavior (n= 16 23.2%). Defiant behavior was the most common predisposing factor for runaway male youth (n= 30 71.4%) followed by Family Instability (n= 9 21.4%). Female adolescent runaways were more likely to engage in sexual behavior from ages 14 (40%) to 17 (62.5%). Conclusion: Runaways are a marginalized group within the population of adolescents who already have vulnerabilities given their distinctive developmental stage which typically includes risky behaviors. Female adolescents are more likely to run away and be victims of sexual assault or engage in risky sexual behavior than their male counterparts. It is important for health care providers to assess for sexual history and abuse in runaway patients as well as educate the patients and their family members about potential interventions.

Saturday May 04

### **Antipsychotic Polypharmacy VS Monotherapy with psychiatric re-hospitalization rate in adults with schizophrenia in ACT TEAM Patients in Bronx**

*Omobolanle Alli-Balogun; Akshita Lalendran M.D.*

Introduction Assertive community treatment (ACT) is a community based

mental health care model designed to provide comprehensive and intensive support to individuals with serious mental illness. (Stein 2005). ACT is characterized by a multidisciplinary team approach with a focus on community-based care and a high yield level of outreach and engagement with patients. The Assertive community treatment model was developed in the 1970s by a group of mental health professionals in Madison WI. The founders of ACT were inspired by the community snip based mental health care models of Europe and sought to create a similar model in the United States. The goal of act was two provide a more effective and less restrictive form of mental health care to individuals with serious mental illness who have traditionally been served in institutional settings characterized by multiple disciplinary team approach with a focus on community-based care and high level of outreach engagement with patients. (Stein 2005) Aim: of the study is to determine the number of patients followed by the ACT team in the Bronx who are on 2 or more antipsychotics as compared to those on monotherapy who were re-hospitalized within 1 year of discharge 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 February 2022 to February 2023. The study compared the number of re-hospitalizations of patients on 2 or more Antipsychotics as compared to those on Monotherapy from February 2022- February 2023. were a thorough review of charts of the 68 Clients being followed by the ACT team was done Data analyzed with SPSS. Data analyzed with SPSS. Result: Out of 68 patients being followed by the ACT team; 9 Patients were on 2 antipsychotics/ LAI (Long Acting Injectable) of which 5 patients were on 2 oral antipsychotics 1 Patient on 3 oral

antipsychotics and 3 Patients on two long-acting intramuscular depot preparations of which five (3 for psychiatric related issues and 2 for medical reasons) out of 9 (55.55%) of this population were hospitalized in the 12-month reporting period of February 2022 to February 2023. As compared to 27 (45.7%) patients on monotherapy who were also hospitalized in the last 12-month reporting period. All remaining 32 (54.2%) clients on monotherapy had no hospitalizations in the 12 months reporting period.

Saturday May 04

### **Association of Ovarian Dysfunction and Psychosis in Adolescent Females: A Review**

*Vatsala Sharma M.D.; Maria Chona San Gabriel; Serge Mitelman; Ayodeji Jolayemi M.D.*

Hypothalamic-pituitary-adrenal (HPA) and hypothalamic-pituitary-gonadal (HPG) axes interaction during adolescence play a significant role in psychosis onset elucidating its hormonal etiology. Literature supports the antidopaminergic activity of estrogen which is evident in low estrogen levels found in patients with psychosis and various coexisting contributory gynecological pathologies. Likewise premenstrual and menstrual phases with lower estrogen are sometimes accompanied by psychosis. The potential role of increased estrogen in mediating hippocampal plasticity and maintaining hippocampal-occipital connectivity may account for psychosis prevention. (1) Apart from psychotic symptoms secondary to hormonal derangement due to ovarian conditions tumors such as ovarian teratoma can generate an autoimmune response in the form of autoantibody-mediated psychosis via

paraneoplastic or anti-N-methyl-D-aspartate receptor encephalitis (NMDARE) in adolescents. (2) This 10-year literature review discusses synergistic relationships of multiple ovarian pathologies with psychosis in adolescent females to highlight the management complexities of these co-occurring conditions. The demarcation of ovarian dysfunction-associated psychosis from other primary or secondary psychotic etiologies due to hormonal derangement becomes challenging. Catamenial psychosis characterized by psychotic symptoms during menstruation needs to be cautiously differentiated from the perimenstrual exacerbation of pre-existing psychosis. Therefore the management of psychosis secondary to ovarian dysfunction depends on underlying etiology requires differentiation and warrants an etiology-focused approach. Certain conditions such as Polycystic Ovary Syndrome (PCOS) have symptomatic overlap with antipsychotic side effects particularly metabolic syndrome and type 2 diabetes mellitus which also necessitates circumspect distinction. (3) Clinicians should carefully identify new-onset PCOS in adolescent females on antipsychotics versus antipsychotic-related exacerbation of pre-existing PCOS symptoms in patients receiving PCOS-associated psychosis management. To our knowledge this is the first review encompassing a cumulative systematized account of female gonadal hormone derangements and psychosis in adolescents with a discussion of their management ambiguities and complexities. Through this poster we aim to encourage psychiatrists and gynecologists to be mindful of the psychotic presentation of various ovarian etiologies in adolescent females and promote an optimal collaborative multidisciplinary management approach as well as to foster further discussion for future research.



Saturday May 04

**Caring Messages for US Muslims:  
Feasibility of a Text-Messaging Intervention  
for Preventing Suicidality Among Muslim-  
American Immigrant Young Adults**

*Mariam Shalaby M.D.; Daniel George PhD;  
Stephanie Craig Rushing PhD*

Introduction: Given disproportionately high rates of attempted suicide among Muslim Americans we studied the feasibility of a text message-based intervention called Caring Messages that has been effective in reducing suicide risk in other vulnerable populations. Methods: Our pilot initiative delivered three culturally-tailored text messages per week for four weeks and we assessed participants' experience using pre- and post-surveys. Eligible participants included Muslim American immigrants and first-generationers aged 18-25. Results: 56 young adults participated. We observed high usage rates and strong efficacy in uplifting mood and decreasing loneliness but analysis of quantitative survey data did not suggest statistically significant behavioral change. Conclusion: A Caring Messages program tailored to a target population and executed by a small team is feasible and may hold promise in supporting Muslim American young adult mental health. Further research using text-based approaches to address rising rates of suicidality in larger populations is warranted.

Saturday May 04

**Community-based participatory recovery  
(CPR) model for people with serious mental  
illness**

*Amy Cheung M.D.;Ph.D.; Xiaoduo Fan*

It is well established that people with serious mental illness (SMI) have a 10- to 25- year shorter life expectancy compared with the general population. The experience of living with SMI often resulting in loss of independence financial insecurity psychiatric decompensation and stigma around mental illness lowers overall quality of life [1]. Recent evidence demonstrates that there is a smaller elevation in early mortality among those with SMI in the community setting compared with those who are hospitalized which warrants greater community action to combat this challenge to public health [2 3]. Here we propose a community-based participatory recovery (CPR) model of research to nurture meaningful collaboration between academic institutions and community partners with serious mental illness. The foundation of the CPR model is built on 1) whole health promotion 2) stigma reduction and 3) community collaboration. UMass MIND's Community Intervention Program (CIP) was designed using the CPR model. Three CIP initiatives were created to address different domains of health promotion in the SMI community: 1) Lifestyle as Medicine 2) Arts and Music and 3) Early Psychosis Detection and Intervention. Each initiative has led to continuing partnerships with local community mental health organizations colleges non-profit organizations and other academic institutions. The model empowers trainees at all levels from high school students to psychiatry residents and those with lived experience and their advocates to facilitate program development through this recovery-based framework. Notably the Food4Thought program in the Lifestyle as Medicine initiative demonstrates the evolution of pilot to sustained programming and promotion of community involvement as part of medical education. With the shift in person-oriented care and shared decision

making effective interventions will undoubtedly embrace the voices of community members with SMI in their development to promote functional and stable health outcomes.

Saturday May 04

### **Comparison of Antipsychotics in The Treatment of COVID-19 Induced First-Episode-Psychosis: A Systematic Review of Case Studies**

*Gurraj Singh M.B.B.S.; Riley Hartnett; Briana Silva; Riley Hartnett*

Background: COVID-19 a novel coronavirus variant can cause a wide range of manifestations from no symptoms to mild respiratory symptoms and even fatal severe acute respiratory syndrome. In rare cases it has also been associated with neuropsychiatric manifestations including psychotic features particularly those with no prior psychiatric history. This review aims to compare and analyze the use of antipsychotic medications in managing various clinical psychotic presentations seen in COVID-19 induced first-episode psychosis (FEP). Furthermore this study assesses how these patients responded to the prescribed antipsychotic(s) management from recently published literature. Methods: We completed a review study consisting of 43 cases that demonstrated psychotic features during or following a COVID-19 diagnosis in patients who had no prior psychiatric history. The studies were searched across Google Scholar and the National Library of Medicine (NIH) databases. Data was extracted from these cases based on the parameters established from the inclusion and exclusion criteria. The inclusion criteria considered studies of all ages gender race and country of origin experiencing first-episode psychosis

following or concurrently with a diagnosis of COVID-19. The exclusion criteria omitted studies presenting patients with any prior psychiatric history substance use disorder history and cases of first-episode psychosis that did not use antipsychotics as the primary management. Additionally the following were assessed: demographics psychiatric features observed antipsychotic(s) used clinical course and outcome. Results: Psychotic symptoms were seen greater in the male population (25 cases 58.1%) and a greater number of FEP in the 30-39 age group (10 cases 23.3%). Olanzapine was the most commonly used single-use antipsychotic (6/21 cases 23.8%) while the combination of Haloperidol and Aripiprazole was used most in multi-use antipsychotics (5/22 cases 22.7%). Atypical antipsychotics were preferred (23/43 cases 53.5%) and the most used antipsychotic was Haloperidol (19/43 cases 44.2%) with an average dose of 9mg/day. Side effects were observed in 5 (11.6%) cases and 2 (4.7%) cases experienced episodes of relapse. Due to the heterogeneity of studies a meta-analysis was deferred. Conclusion: With the limited recognition and clarity of COVID-19's association with psychosis in the medical community insufficient protocols have been established or recommended to manage such patients. This study highlights frequently administered strategies when assessing patients of COVID-19-induced FEP in the clinical setting. Further research is crucial and well-defined protocols should be established to effectively address cases of psychosis during the COVID-19 pandemic especially in light of the potential resurgence of COVID-19 prevalence in years to come.

Saturday May 04

**COVID-19 and Porn**

*Taylor Anthony; Madeleine Andreas B.S.;  
Celena Ma M.D.; Najeeb Hussain*

**Objective:** To determine if COVID-19 lockdowns and its social sequelae increased the amount of pornography consumed worldwide from 2020-2023 and caused an increase in unhealthy or addictive use of pornography. We hypothesized an increase as existential threats and boredom can trigger hypersexual behavior. In particular online sexual activity increases with boredom.

**Methods/procedures:** A search using PubMed Scopus and Google Scholar was conducted using the search criteria “COVID-19 and internet porn” and “COVID-19 and porn.” Studies were limited to those published in English between April 2020 and January 2023. Five Reddit threads regarding COVID-19 and/or porn addiction from Feb 2020 to Jan 2023 were also analyzed.

**Results:** Seven studies fit the criteria. Four studies showed pornography usage increased in the US. In particular Pornhub showed US traffic changes spiked as high as + 41.5% with the start of lockdowns on March 23 2020. In addition an analysis from early 2020 demonstrated a “strong positive association between daily new cases and pornhub traffic rate.” In contrast two studies demonstrated an overall decrease in US adult porn consumption in 2020. Of note one case report identified that COVID-19 was partially responsible for an exacerbation of OCD manifesting in an increase in internet porn usage. Reddit threads regarding the link between COVID-19 and porn addiction were also analyzed. The average number of comments on a post was 225.6 and the average number of posts explicitly related to COVID was 1.4 with all of those posts dating to 2020 and 2021. The average number of posts and/or comments with personal stories of dealing with porn addiction was 2.8 or 12.4% of all responses. **Conclusions:**

With every new technology comes addictive potential and the internet is no different. True pathology requires a preoccupation with internet usage leading to significant impairment in functioning. With the pandemic addictions have skyrocketed. Our study shows that while there is some research regarding effects of social isolation on pornography usage there is a lack of substantive data on the sequelae of the isolation on current pornography usage. As seen from the Reddit threads and published studies data is inconclusive regarding the extent to which the pandemic has impacted pornography addiction. More research is needed to elucidate the correlation between the pandemic and unhealthy or even addictive uses of internet pornography.

**Saturday May 04**

### **Developing Discharge Materials for Parents with Children Admitted to the Psychiatric Emergency Department: A Survey Study**

*Sijia Zhang*

**Background** Youth are increasingly experiencing mental health crises with suicide rates for people aged 10-24 rising 62% from 2007 to 2021 in the United States<sup>1</sup>. Interventions to reduce suicide risk include inpatient hospitalization or emergency department admission with development of a safety plan and follow-up with mental health providers. The post-discharge period is an especially vulnerable time for such patients with increased suicide rates and other adverse events<sup>2</sup>. For children post-discharge involves re-integration into their life often with significant time spent with their parents and at school. Parent relations have been identified to be the most consistent protective factor for adolescent suicide<sup>3</sup>. Parents can support children by safety-

proofing the house de-escalating crises and bringing their children to the emergency department in case of imminent harm. However per scoping reviews<sup>45</sup> and our review there are no studies to date querying the mental health education that parents of children admitted for psychiatric treatment request at discharge. **Methodology** We designed a survey for parents of children admitted to the Rady Children Hospital of San Diego's behavioral health emergency department (BHED). The surveys were administered at routine meetings between a BHED nurse and parent to overview discharge planning with a response rate of 100%. Based on the needs assessment survey we created educational materials to be incorporated in the patients' discharge instructions. **Results** Our survey asked parent participants (n=37) if they would like to be provided information in the form of educational handouts about the following topics at discharge: Their child's mental health diagnoses (89% responded "yes") General parenting skills (86% responded "yes") Locking up guns and medications (62% responded "yes") Talking to kids with suicidal thoughts/de-escalation crises (97% responded "yes") Risk factors and warning signs of suicidal ideation (95% responded "yes") **Discussion** We provide evidence that parents of children admitted to the psychiatric emergency department would like to be supported at discharge with educational materials. Such handouts include topics such as instructions on how to safety proof parenting skills supportive communication during a mental health crisis and identifying warning signs for suicidal ideation. We have incorporated these topics in the form of a discharge packet provided to parents. Further investigation is needed to better understand if such educational materials are associated with

improved outcomes following discharge from the pediatric BHED. Future directions include administering a survey to assess parent satisfaction of our developed educational materials.

**Saturday May 04**

### **Development of a Podcast and National Social Media Presence for Current and Aspiring Trainees in Community Psychiatry**

*Jean Wu; Hannah Lynch; Angela Liu M.D.*

**Introduction** With the rise in demand for mental health services and increasing shortage of community psychiatrists there is a need to recruit and engage more trainees (13). Podcasting and social media are valuable tools to educate inspire and engage the next generation of trainees (2). This project aims to outline the development of a community psychiatry podcast and Instagram page to engage and connect the current and next generation of aspiring community psychiatrists. **Methods** **Step 1: Establishing Team** This is a student driven project developed by medical students residents and early career psychiatrists (ECP) across the nation who connected through the American Association for Community Psychiatry (AACP) collaboration and connection plank meetings. **Step 2: Defining Goals** We first established a partnership with the AACP Board through engagement at board meetings. Key takeaways include: 1) AACP desires a stronger social media presence for trainee involvement 2) there are no podcasts or Instagram accounts focusing on community psychiatry and 3) podcasting is low cost and easy to learn. Thus we decided the purpose of the podcast is to connect educate and inspire trainees and young community psychiatrists through monthly episodes with community

psychiatrists. Step 3: Outlining Plans A strategic plan was developed for the Community Psychiatry Podcast including detailed goals timelines marketing plan. Podcast guest speakers would participate in recorded Zoom calls edited using Audacity. A template is used to organize the interview's outline anticipated questions and key takeaways. Marketing material includes fliers and audiograms. A formal proposal for the AACP Instagram was developed including: content ideas workflow and structure. Some content ideas include: podcast highlights AACP opportunities stories from community psychiatrists. Step 4: Project Launch The AACP instagram (@aacp\_communitypsych) was first launched 3/29/23. The Community Psychiatry podcast was launched 4/5/2023 and is now available on Spotify and Apple podcasts. Results We have been collecting monthly statistics for the podcast and Instagram page. The podcast has grown to 160 followers and Instagram to 628 followers from March to August. Over 6 months (3/30/23-8/25/23) there were 552 total podcast plays and an average of 858 accounts reached each month for the Instagram page. Both platforms also increased new trainee membership by 89% from 3/30/23-8/25/23 compared to the same time frame last year. Discussion This is the first podcast and Instagram account to the best of our knowledge that focuses on community psychiatry. Given the shortages in community psychiatrists there is a need to recruit and inspire more trainees. The high levels of engagement with The Community Psychiatry Podcast and Instagram suggest that these digital platforms are valuable tools for engaging educating and connecting with the next generation of trainees in community psychiatry.

Saturday May 04

### **Effects of Live Music Therapy in a Trauma-Focused Inpatient Pediatric Setting**

*Mathew Lemberger M.D.; Chuchitra Thanigaivasan; Stephanie Gao; Robert Sears*

Background: Music is known to have a profound effect on emotion and memory. The regions of the brain involved in processing these cognitive functions are also implicated when people experience psychological trauma including abuse and neglect. While the neuroscience of music's effects on the brain has been extensively studied clinical research is limited regarding what effects live music participation might have in a trauma-focused setting specifically among pediatric patients. Methods: In this retrospective cohort study we analyze how patients at a psychiatric residential treatment program for youth who have experienced trauma responded to an eight-week period of once-weekly live music therapy. Data analysis includes patient involvement in psychiatric emergencies receipt of as-needed medication for trauma-reactive behavior and self-report of mood/trauma symptoms during the eight weeks of music therapy and the four weeks before/after. Objective observation of patient response to music therapy sessions is also assessed. Results: This analysis includes 12 patients with prominent trauma-reactive symptoms admitted to a psychiatric residential treatment program designed for children who have been sexually physically or emotionally abused and who have been experiencing psychological/emotional/behavioral difficulties. Inclusion criteria for the program are ages 8-12 minimum IQ 70 diagnosis of abuse/neglect/PTSD/RAD in parental or state custody previously hospitalized for harm to self/others failure of less restrictive environment and readiness to talk about



experienced trauma and work on expression of feelings. Considering the neurophysiological mechanisms involved in psychological trauma we anticipated that participation in live music therapy would have a calming effect on children who have experienced trauma. Preliminary analysis shows variable response with roughly a third of patients showing consistent benefit and two thirds showing little to no change in trauma-reactive behavior. Conclusion: The goal of this study was to determine how participation in live music therapy could affect trauma-reactive symptoms for pediatric patients in a residential treatment setting. While a smaller percentage of patients demonstrated sustained improvement to mood/trauma symptomatology transient mood brightening was observed even among those with less sustained benefit. A number of factors may have impacted patient response to live music therapy including unit milieu peer/staff-reactivity school-related stressors music preference effects of medication adjustments for co-occurring psychiatric symptoms and engagement in trauma-focused therapy. We hope this study may serve as a foundation for further research as well as a basis for interdisciplinary collaboration to develop music-focused recreational therapy models that may shorten length of hospitalization and reduce need for pharmacological intervention among children who have experienced trauma.

Saturday May 04

### **Ethical Dilemmas Arising from the Lack of Appropriate Language Interpretation in Mental Health Courts: A Literature Review**

*Yarden Segal*

In recent decades there has been a notable rise in both the quantity and variety of individuals residing in the United States who have limited proficiency in the English language. This literature review aims to examine the ethical dilemmas that emerge when individuals with limited English proficiency (LEP) or non-English-speaking backgrounds encounter barriers to effective language interpretation services within the context of mental health courts. A literature review was conducted using three publicly available databases (Embase American Psychological Association PsycINFO and PubMed) using search terms such related to limited English proficiency mental health and access to healthcare. Some of the ethical dilemmas identified are related to informed consent the right to a fair trial confidentiality cultural competency and access to justice. Insufficient language interpretation services jeopardized the ability of individuals with limited English proficiency to understand legal proceedings participate effectively in their defense and express their mental health needs. The resulting consequences often included unjust outcomes and potential harm to individuals' mental health. The ethical dilemmas arising from the lack of appropriate language interpretation in mental health courts pose significant challenges to justice fairness and the well-being of individuals with limited English proficiency.

Saturday May 04

### **Evaluation of Pediatric Behavioral Rapid Response Team (BRRT) Events: Data Patterns and Lessons Learned**

*Miriam Butler; Kiana Malta; Connor Mott; Puneet Sahota*

Objectives: The objective of this retrospective chart review study was to characterize

behavioral emergency events at Cooper University Hospital (CUH) for pediatric patients from 2018 to 2022. Behavioral Rapid Response Team (BRRT) alerts are called when a patient on a medical floor is having an acute behavioral event (e.g. aggression towards others self-harm destroying property). Pediatric patients are often admitted to the medical floors while awaiting placement in an outside child/adolescent psychiatry hospital and the number of BRRTs has increased during the pandemic-related mental health crisis. Methods: The most recent cumulative informatics BRRT report was manually reviewed for locating pediatric patients and then patient charts were reviewed for variables of interest. Given the sample size descriptive and regression statistical analyses were conducted. Results: There were 73 pediatric BRRTs called from 2018-2022 with the average age of the patient being 15 (range: 5-22 years old). The total number of patients was 42 because 12 patients had multiple BRRTs called both during the same hospitalization and/or other hospitalizations. Patients with multiple psychiatric diagnoses were more likely to have repeat BRRTs. The most common diagnoses in pediatric patients who had BRRTs were attention deficit hyperactivity disorder (ADHD) (N = 45) and autism spectrum disorder (ASD) (N = 24). Verbal de-escalation was the most commonly used method of intervention followed by medication administration and then physical restraints. Verbal de-escalation only was utilized in 21% of BRRTs while 19% required verbal de-escalation and medication. Medication only was used in 24% and both medication plus physical restraints in 29% with 7% of BRRTs using physical restraints only. Injectable medication was used significantly more often than oral medication (52.1% of BRRTs vs. 19%  $p < 0.001$ ). Of all

BRRTs requiring the use of restraints (N = 38) 50% of cases were in patients with ADHD (N = 19) 23.7% had ASD (N = 9) and 26.3% had neither ADHD or ASD (N = 26). In all cases requiring the use of injectable or intravenous medications (N = 50) 48% had ADHD (N = 24) 26% had ASD (N = 13) and 26% had neither diagnosis (N = 13). Conclusions: This retrospective study showed that ADHD and ASD were the most common diagnoses among children who had BRRTs and that injectable medication was used in about half of BRRTs. Recent innovations aimed at reducing the use of injectable medication and restraints in BRRTs include: co-management of patients by the pediatric hospitalist and psychiatry consult teams; writing of behavior plans for BRRT prevention including verbal script and step-by-step procedure for nursing staff to de-escalate patients; and education for pediatric providers and nurses on working with psychiatric patients. These innovations provide lessons learned for the field in hospital-based management of pediatric patients awaiting psychiatric placement.

**Saturday May 04**

### **Exploration of the Characteristics of Admissions for Eating Disorders in Adolescents Pre and Post COVID-19 in Türkiye: Lessons Gained for The Future**

*Anna Isayeva MSc.; Hakan Ögütü; Alkim Oden Akman; fiona mcnicholas; Esra Cop*

During the COVID-19 pandemic Turkey implemented age-specific curfews as part of public health measures. Eating disorder (ED) incidence and severity has been known to have increased during the pandemic. Significant morbidity and mortality can be associated with onset of ED's in adolescence. Our study aims to evaluate the features associated with the presentations of

adolescent ED's in a Turkish tertiary care hospital. This is a retrospective cohort study involving patients aged between 10 and 18 years old who presented to or were referred to Ankara City Hospital between September 2019 and August 2021. Diagnosis at presentation or within the referral must be listed under the ICD-10 diagnostic code of F50: Eating disorder or its subtypes. Data was collected in accordance with ethical approval by hospital ethics committee with written consent obtained prior to study participation. Sample size consisted of 176 participants of which 93.2% were female (n=165) and 6.8% were male (n=12). Pre-pandemic the mean number of monthly referrals was 3.67. During and after the pandemic the mean rose to 8.56 referrals a month representing a significant increase ( $p < 0.001$ ). No differences between gender proportions were observed. Young people presenting between September 2020 to February 2021 and March 2021 - August 2021 were significantly older ( $p < 0.05$ ). The greatest proportion of referrals occurred during February 2021 three months after the reinitiation of curfews for people under 20 or over 65 years old. Patients were noted to have fewer psychiatric comorbidities at time of assessment ( $p < 0.001$ ). Our centre also observed an increased number of presentations and referrals as previously reported internationally. Adolescents were more likely to present with an eating disorder as a primary diagnosis in the absence of other psychiatric co-morbidities. Further study is necessary to determine if this continues to be an upgoing trend or if numbers have abated.

Saturday May 04

### **Feasibility Study of a Collaborative Care Model for Delivering Youth Urgent Mental Health Care**

*Alexander Bourdon Resident Doctor; Karen Wang M.D.; Rosalie Steinberg MD MSc FRCPC*

Background: According to the Ontario Student Drug Use and Health Survey (2019) nearly 25% of youth (11-18 years) in Ontario Canada reported moderate-severe anxiety or depression symptoms and 20% reported seriously considering suicide. Moreover during the Covid-19 pandemic use of physician-delivered youth mental health services in Ontario increased by 10-15% above expected levels throughout the first year of the pandemic. Consequently current wait times for child and youth psychiatric services in Ontario range from 9 months-2 years. In this context the “collaborative care” model is one strategy that has the potential to increase access (by decreasing wait times) to mental health care for this population. The following study aims to evaluate the feasibility of a centralized urgent youth assessment model (SCOPE-KIDS) that seeks to improve access to mental health navigation crisis counseling and psychiatric assessment for youth supported by primary care teams in the North Toronto region of Ontario where youth comprise over 11% of their patients. Methods: Using the Institute for Healthcare Improvement model of Quality Improvement (QI) SCOPE-KIDS was formed through a co-design implementation process. Both internal and external stakeholders (e.g. primary care providers child/adolescent psychiatrists administrative leaders QI and navigational experts) co-designed a model that seeks to offer effective accessible and patient-centered mental health care. SCOPE-KIDS is built upon a pre-existing adult mental health infrastructure being utilized by a network of family health teams facilitating access via an established e-referral system. Key feasibility measures of this study included: (1) number of referrals; (2) patient

demographics; (3) service requested; (4) time to assessment; (5) barriers encountered; (6) patient satisfaction; and (7) provider satisfaction. Results on these measures informed adjustments to the model in order to improve efficiency and effectiveness. Results: Within its first 3 months (May 29 2023 - Sept 5 2023) SCOPE-KIDS was linked to a referral base of 117 primary care physicians in the North Toronto region and has accepted 37 new referral requests representing 27 unique clients. Eighty percent of referrals were for a psychiatric consultation and close to 50% required social work consultation. Roughly 70% of all requests for psychiatric consultation were seen within 2 weeks. Lessons learned so far indicate that optimization of psychiatric referrals and timely access to a psychiatric consultation is feasible within this model. Furthermore ongoing collaborative partnerships are critical to success. Data on patient and provider satisfaction is currently being collated. Conclusion: Promising early results indicate that this model is feasible and accessible. Ongoing data collection will be important in determining whether the model is effective over time as well as for identification of potential barriers to access.

Saturday May 04

### **Identifying and Supporting Children of Parents with Mental Illness: Preventative Medicine in Child Adolescent Psychiatry**

*Izabela Zubrzycka; Jasmin Lagman M.D.; Ramnarine Boodoo M.B.B.S.*

Background: It has been well documented in the literature that children of parents with mental illness (COPMI) including substance use disorders (SUDs) are at increased risk of developing mental illness. This is a multifactorial inheritance influenced both by

patient genetics and their environment. While multiple treatment modalities address mental illness in children less is known about preventing COPMI from developing their own mental illness. It was estimated that between 2009 to 2014 an annual average of 8.7 million children and adolescents live with at least one parent with SUD and the CDC estimates that 1 in 14 children has a caregiver with mental illness. This brief literature review aims to investigate methods of identification and supporting children of parents with mental illness particularly SUDs.

Methods: A comprehensive search of PubMed Central PubMed Medline PsychINFO and a reference list of primary papers was done using the keywords: children of parents with mental illness support identification child adolescent

Results: This literature review revealed studies from Denmark Australia and the United Kingdom (UK) supporting the use of identification methods for COPMI. Researchers have proposed family-based interventions for supporting these children. The studies assessing these protocols are still under way. Unfortunately majority of these studies did not include SUDs in the definition of mental illness. Countries including Norway and the UK have policies requiring mental healthcare providers to identify patients with minor children and assess their family situation. There are no studies documenting a standardized method used by healthcare providers in the United States to identify and support COPMI and SUDs.

Discussion: Over the last few years rates of mental illness in children and adolescents have increased and are overwhelming the healthcare system. Studies have shown that policies requiring healthcare providers to ask patients about minor children are effective in identifying children of parents with mental illness when implemented. There is evidence that social

support and positive social interactions in the home and the community can improve the overall wellbeing of a child. Researchers are building on this knowledge to create multidisciplinary teams that provide interventions which may mitigate the impact of parental mental illness on the child's quality of life and risk of mental illness development. In the absence of any method in widespread use in the US we propose adoption of available evidence-based methods for identification of COPMI as well as further research into family-based interventions for supporting these children. These methods may require adjustment to fit US regulatory frameworks and resource availability and will require future research to determine their effectiveness.

Saturday May 04

### **IMPACT OF DIFFERENT TYPES OF JOB PLACEMENT PROGRAMS ON PEOPLE WITH SEVERE MENTAL DISORDERS**

*Marina Antonia Andreo Vidal; María Calvo; Juan Carlos Fiorini Talavera*

**Abstract** Background: People with severe mental disorders face a number of personal and community barriers that make it difficult to access employment. The aim of this study is to determine the efficacy of job placement programs for people with severe mental disorders to analyze those with the greatest benefit and to study the variables that have been analyzed in each program. **Methods:** In order to carry out the research a bibliographic review of literature related to the programs was carried out by consulting MedLine and Psychology and Behavioral Sciences Collection databases in Spanish and English using the EBSCOhost metasearch engine. The terms used were the following: "Severe mental illness" OR "Serious mental illness"

OR "Psychos?s" OR "Psychotic disorder" OR "Schizophr\*" [TI] AND "Employment" OR "Job" OR "Work" OR "Career" OR "Unemployment" [TI] AND "Efficacy" OR "Success" OR "Outcome" OR "Evaluation" [TI]. The deadline for the inclusion of articles were from 2010 to the present. **Results:** The search resulted in 61 articles. Only 28 met the specified inclusion criteria which were those based on patients diagnosed with severe mental disorder or psychosis included in a specific type of job placement program and its trajectory over time. Studies about patients without pharmacological stabilization were excluded as well as observational and review articles. The job programs that were analyzed were vocational rehabilitation and supported employment combined with cognitive therapies. We did not find recent publications on institutional labor therapy and sheltered employment as we expected since these are classic interventions whose lower efficacy compared to the aforementioned therapies is already known and has been demonstrated. Nor have we found any studies on social enterprises since experimental follow-ups have not yet been carried out. **Results** show that job placement programs are effective. Among them the one that obtains the best results is supported employment which consists of providing competitive employment in ordinary companies that ensure on-the-job training and follow-up. It involves a reduction in health care costs (hospital admissions and emergency room visits) and an increase in the participants' state of well-being both psychological and clinical. In addition positive results have been obtained in association with cognitive and/or behavioral therapy. **Conclusions:** Job placements programs are an important opportunity for improvement in order to obtain a job during the remission of severe mental illness.



Among them supported employment programs have shown the greatest effectiveness. The results of traditional vocational therapy show that it is not sufficient to secure a job for these patients. Therefore we can conclude that the treatment of people with severe mental disorders should go beyond psychopharmacological treatment with actions that favor integration into the community such as job placement programs.

Saturday May 04

### **Is social media Gen Z's Dr. Google? A literature review of social media's effects on adolescent mental health diagnoses**

*Jaqueline Campbell B.S.; Victoria Vuckovic MD resident; Hannah Russin M.D.*

Background: The social environment adolescents live in has consistently evolved throughout the progression from the Millennial to Gen Z generation. Platforms such as Facebook Instagram Twitter Tik-Tok and several others are now used ubiquitously by adolescents as forms of social engagement with peers. Many recent studies have shown that social media use has a significant impact on adolescents' mental health. For example the rates of many mental health diagnoses have increased in the adolescent population drastically as a result of exposure to these platforms. In addition to the increasing anxiety and depressive disorders associated with increased social media usage providers are also seeing a surge in self-diagnoses. Conditions such as attention deficit/hyperactivity disorder autism Tourette's and eating disorders are increasingly being self-reported by adolescents after encountering content about these conditions through social media posts. While increased exposure to mental

health conditions could potentially decrease stigma there are concerns that social media content may also be presenting misinformation leading to overdiagnosis of certain conditions. The purpose of this literature review is to discuss the possible effects of social media use on accuracy of diagnosing mental health conditions in the current adolescent population. Methods: The articles chosen for this literature review were identified through a PubMed search using the keywords "Tik-Tok" "mental" and "diagnosis." The search was limited to articles published within the past 5 years. 39 studies met the search criteria and 7 were chosen for analysis. Findings: Studies which reviewed social media content on diagnoses such as ADHD autism Tourette's and eating disorders have shown that many of the discussions are presenting misinformation to users. Adolescents are more likely to present after self-diagnosing these conditions without accurate knowledge of diagnostic criteria which may be influencing the current rates of diagnoses by providers. Conclusions: Adolescent presentations for conditions such as ADHD autism Tourette's and eating disorders may be influenced by their exposure to social media content on these conditions. Providers should be aware of the current influences of social media on adolescent mental health diagnoses and understand how individual patients perceive these diagnoses based on their own social media use. Updated screening tools to include exposure to certain social media platforms may help providers better appreciate patients' understanding of mental health diagnoses and the impacts on diagnostic accuracy.

Saturday May 04

## **No significant change in reports of substance use or bullying in youth presenting to the ED for suicidality during the COVID-19 pandemic**

*Courtney Hsu M.D.; Manisha Yedla MD; Sarthak Angal MD; manasi rana*

**Objective:** The aim is to understand substance use bullying perception of social and acuity of mental health issues in youth presenting to the ED during the pandemic. **Background:** The COVID-19 pandemic has been disruptive to US youth and has impacted their mental health as evidenced by increased rates of depression and anxiety<sup>1</sup>. Many factors including social isolation due to shelter-in-place have likely contributed to these mental health effects<sup>2</sup>. Past studies indicated decreased substance use in youth during the pandemic<sup>3</sup>. **Methods:** This study was designed as a retrospective chart review with the study population being children from age 5 to 17 with no psychiatric diagnoses in the 2 years prior to presenting to Northern California Kaiser Permanente ED for suicidal ideation (SI) or behaviors during the pandemic. Diagnoses and disposition were extracted from the medical record along with demographic data. Chart review was conducted to collect types of psychiatric follow-up after the ED visit and risk factors for suicidality at the time of each ED visit. Chi-squared tests and IR and IRR were used to compare differences in reports of bullying substance use and perception of social isolation in youth presenting to the ED for SI during 2019 and 2020. **Results:** There was no significant difference in the number of children and adolescents presenting to the ED with SI who had substance use in the two weeks prior to ED presentation in 2020 as compared to 2019 [ $\chi^2(1;N=249) = 2.3224$   $p = .1275$ ]. There was no significant difference in the number of children and adolescents

presenting to the ED with SI who had experienced bullying in 2020 as compared to 2019 [ $\chi^2(1;N=249) = 2.3636$   $p = .1242$ ]. There was no significant difference in the number of children and adolescents presenting to the ED with SI who had experienced perception of social isolation [ $\chi^2(1;N=249) = 2.6138$   $p = .1059$ ]. The IR for perception of social isolation in 2019 was 6.3736 (95% CI 4.6752 8.6891;  $p < .0001$ ) and in 2020 was 9.6110 (95% CI 7.4780 12.3525;  $p < .0001$ ). IRR was 1.5080 ( $p = .0435$ ). **Conclusions:** A lack of difference in bullying contributing to SI is noteworthy and suggests further study to determine if alternative methods for bullying such as via virtual communication tools used in education during the pandemic may have replaced conventional in-person bullying yet with similar negative consequences. Similarly a lack of significant difference in children and adolescents presenting to the ED with SI who had had substance use in the two weeks prior to hospitalization invites further study to determine if the nature of shelter-in-place orders and social isolation during the early pandemic in 2020 may have contributed to decrease access to substances in children and adolescents. Understanding the relationships between these factors could suggest targeted interventions to decrease these behaviors in this population.

**Saturday May 04**

## **Optimization of Child Behavioral Health Training for Tripler Army Medical Center (TAMC) Pediatrics Residents in Context of Prolonged Pandemic**

*Barrett Bradham M.D.; Kathryn Egan*

**Background:** In the last four years there has been an increased need for pediatricians to evaluate and treat mental health conditions

highlighted by the national emergency in child and adolescent mental health declared by the American Academy of Pediatrics the American Academy of Child and Adolescent Psychiatry and the Children's Hospital Association in 2021. In the first six months of 2021 children's hospitals across the country reported a 45 percent increase in the number of self-injury and suicide cases in 5 to 17-year-olds compared to the same period in 2019. Our team set out to develop a multi-faceted approach within Tripler Army Medical Center (TAMC) to enhance pediatric resident comfort with behavioral health concerns. Methods: This project was developed as a process improvement project at TAMC. A baseline Likert scale gap-analysis-tool was developed and distributed to graduating PGY-3 pediatric residents in June 2022. We used a fishbone diagram to determine root causes for deficits in physician comfort and then developed countermeasures to address these issues. Root causes consisted of issues with knowledge of points of behavioral health contact lack of a formal behavioral health rotation for pediatric residents and need for an enhanced behavioral health didactic curriculum. Countermeasures developed from this root cause analysis include the sharing of behavioral health points of contact and resources for primary care proposal of a child and adolescent behavioral health rotation for pediatric residents and creation of an enhanced behavioral health didactic curriculum for the pediatric residency. Didactic lectures developed included topics covering behavioral health resources acute crisis/suicidal ideation depression anxiety attention deficit hyperactivity disorder adverse childhood events/trauma disruptive behavior disorder and substance use disorders. Countermeasures were implemented over the course of March-June 2023. Following implementation the same

Likert scale gap-analysis-tool previously used was distributed to the new class of graduating PGY-3 pediatric residents in June 2023. Results: The baseline Likert scale gap-analysis-tool delivered in 2022 showed an overall average score of 4.7. This represents an average response across all questions of "somewhat uncomfortable". This single score represents an average of all scores across all questions on the gap-analysis-tool. In the 2023 graduating PGY-3 pediatric resident response we saw an average Likert score of 5.5. This exceeded our target score by 0.1 bringing the average response across all questions from "somewhat uncomfortable" to between "somewhat comfortable" and "comfortable". Conclusion: Following the bolstering of TAMC's pediatric resident behavioral health curriculum graduating resident Likert scale based behavioral health comfort scores improved.

Saturday May 04

### **Persisting Global Inequities in High-Impact Psychiatry Literature: Diversity Analysis of Cochrane 'Mental Health' Review Authorship**

*Dhwani Ravi; Abhishek Kumar; Vivek Bhat MBBS; Thanmayi G S MBBS*

Background: Within the field of mental health Cochrane reviews represent some of the highest impact literature and have great influence on evidence-based practice. However high- and upper-middle-income countries (HICs) have grossly disproportionate representation in the authorship of global medical literature despite a significant burden of disease in low- and low-middle-income countries (LMICs). Such disparities impact the representativeness and applicability of practice-guiding literature. With this study we

aimed to analyze the country-wise and gender-wise distribution of authors of Cochrane reviews in mental health.

Methods: We included all articles indexed in the Cochrane Library under the topic 'Mental Health' published from inception in 1997 till 15th April 2023. We extracted authors' details to a Microsoft Excel sheet and classified their country of affiliation into low- and lower-middle-income country (LMIC) and high- and upper-middle-income country (HIC) based on the World Bank income classification. We then searched online to determine their gender attempting to capture at least one web page demonstrating gender-identifying pronouns or gender-presenting photographs. For authors whose gender could not be found through manual search their names were inputted into Gender-API an artificial intelligence based tool where we included results generated with >90% accuracy. All analyses were performed on Microsoft Excel and GraphPad.

Results: We included 674 publications with 3359 total coauthors. Only 2.53% (n=86) of all authors came from LMICs. Among all countries the United Kingdom (45.24% n=1536) was by far the most represented followed by Germany (7.54% n=256) Australia (7.33% n=249) China (4.95% n=168) and Italy (4.27% n=145). A meagre 3.59% (n=122) and 3.98% (n=135) were from the United States and Canada respectively. Only 20 studies (2.96%) had a first author or corresponding author from an LMIC. We were able to ascertain gender for 3260 (99.7%) authors 46.59% (n=1565) were women. Women constituted 50.6% (n=351/693) of first authors and 47.09% (n=316/671) of corresponding authors Their representation steadily increased from 35.29% (n=12) in 1997-2000 to 53.65% (n=257) in 2021-2023. HICs had greater female representation compared to LMICs (46.38% n=1535 vs. 34.88% n=30; p=0.036). Specifically from

LMICs only 6 first authors (30%) and 3 corresponding authors (15%) were female. Conclusions: LMICs have dismal representation in the authorship of Cochrane 'Mental Health' reviews some of the most influential psychiatry literature. Despite significant contributions to mental health research the US and Canada were also relatively less represented. Encouragingly women particularly from HICs had almost equitable representation in authorship. Greater efforts to ensure equitable global representation in high-impact psychiatry literature are needed.

Saturday May 04

### **Prioritizing the Bush-Francis Catatonia Rating Scale as an urgent instrument for early diagnosis of catatonia: Case series**

*Evaristus Ezema MD MSc Dr.HA; Amir Meftah; Bashir Aribisala; Jude Beauchamp; Tolulope Olupona*

Background: Catatonia involves the manifestation of negativism mutism stupor excitement stereotyped movement staring grimacing echolalia and echopraxia. At least three of these symptoms are required for diagnosis. It may manifest in malignant form with life-threatening symptoms like autonomic dysregulations and hyperthermia. Early diagnosis is challenging and can be overlooked. Other clinical conditions sharing similar features further hamper early diagnosis. In a report 63.6% of cases requiring treatment were missed and the prevalence ranges from 7.6% to 38% in the US. We present 3 cases of catatonia in which early diagnoses were aided by the Bush-Francis Catatonia Rating Scale (BF CRS). Case 1: A 21-year-old Hispanic male with a history of Autism Spectrum Disorder and Obsessive Compulsive Disorder (OCD)

presented with aggressive behavior. On evaluation muteness stupor and fixed staring were noted. The BFCRS was 11 leading to a diagnosis of catatonia. Lab work and EKG were normal. The patient was started on Ativan 2 mg IM tid. After 3 days the patient's condition began to improve as evidenced by BFCRS score of 5. He was started on oral medications including Fluoxetine 40 mg daily for OCD. By day 5 patient started feeding himself and attending to activities of daily living (ADLs).

Case 2: A 28-year-old African-American male with a history of schizophrenia presented with an inability to self-care. He was observed sitting still for 7 hours with a fixed gaze and inability to feed himself. The initial BFCRS score was 10 and a diagnosis of catatonia was made. The patient was initiated on Ativan 2 mg IM Q6h for 2 weeks. An improvement began on day 7 with the BFCRS score reduced to 5. Then patient was transitioned to oral medications including Aripiprazole 10 mg daily for psychosis and became capable of self-care.

Case 3: A 27-year-old African-American male with a history of schizophrenia came with verbal and physical non-response. On evaluation muteness stupor and persistent blinking of both eyes were noted leading to the patient's admission for Catatonia. The initial BFCRS score was 9. Lab work and EKG were within normal limits. The patient was initiated on Ativan 2 mg IM stat then Q6h. Improvement in the patient's condition became evident after 12 days as evidenced by a reduction in the BFCRS score to 5. This improvement allowed for the introduction of oral medications including Aripiprazole 15 mg daily for psychosis. Then the patient regained the ability to feed himself and attend to ADLs.

Discussion: The prompt identification of catatonia was supported by employing the BFCRS in the above cases. This assessment tool not only aided in the initial diagnosis but

also played a role in monitoring the evolution of the conditions until resolution.

Conclusion: The utilization of BFCRS is crucial for the timely identification and subsequent trajectory of catatonia. We propose prioritizing its prompt usage in suspected cases.

Saturday May 04

### **Psychosocial Characteristics and Psychopathological Correlates of Sex Trafficking in Adolescent Victims: A Comprehensive Analysis Using HoNOSCA Scale**

*Fatma Wafy M.B.B.S.; Peng Pang M.D.*

Background: Sex trafficking among minors is a rising problem that portends a possible crisis. A recent study showed a prevalence of 12.3% among 212 minors screened in a large metropolitan hospital ER setting. Our study hypothesizes that some psychosocial characteristics are associated with more severe psychopathology in sex trafficking adolescent victims. Methods: A comprehensive chart review was conducted of adolescent patients from underserved neighborhoods who were admitted to a public psychiatric inpatient unit in NY city from January 2022 to December 2022. Social determinants and potential risk factors were assessed. The Health of the Nation Outcome Scales for Children and Adolescent (HoNOSCA) was used to evaluate the severity of psychopathologies. The 15-item HoNOSCA scale can be classified into 4 groups; externalized behaviors internalized emotional experiences social and occupational functionality and lastly the child-parent relationship. Spearman correlation was employed to explore the correlation between the scale scores and the psychosocial determinants. Results: 10 cases of sex



trafficking adolescent victims were identified from a cohort of 134 (7.4 %) with mean age=15.5 9 females and 1 male. Social factors that were analyzed and correlated to the scale sub-scores included: the marital status of the parents ACS involvement (indicators of poor parent-child relationship) adoption status immigration status language difficulty between parents or child (categorized into parent-child relationship) runaway behavior truancy behavior abuse exposure drug abuse legal history (categorized into externalized behaviors) and the primary diagnoses. A correlation was found between the functional deficits scale and the history of abuse ( sexual: 0.652 physical: 0.681  $p = .041$  and  $.030$  respectively) history of suicidal attempts (  $0.878 p < .001$ ) diagnosis of anxiety and conduct disorder (0.690 0.659  $p = .027$  and  $.038$ ) respectively. A correlation was also found between externalized behavior scale and history of truancy (  $0.705 p = .023$ ) ODD diagnosis (  $0.692 p = .027$ ) and Legal History (  $0.784 p = .007$ ). Conclusions: The results suggest that all these sex trafficking victims who have a history of physical and sexual abuse history of suicide attempts and primary diagnoses of conduct or anxiety have more severe functional deficits and those who have a significant legal history truancy history and ODD diagnosis have more maladaptive externalized behaviors. This small study using the HoNOSCA scale may serve as an easy-to-use promising tool for a larger study in the future to quickly identify the psychosocial risk factors and their impacts on functions in such population to predict and prevent future trauma and provide targeted psychological interventions. Limitations: This study was limited to its small sample size which was a challenge for conducting a regression analysis.

Saturday May 04

## **Resilience emotional wellbeing and experiences of healthcare among Afghan refugee and asylee women in Northern Virginia**

*Marwah Shuaib; James Griffith M.D.*

**BACKGROUND:** Circumstances of war and displacement can affect the emotional wellbeing of refugees and resilience factors displayed in resettlement. In Afghan culture the prevalence of highly gendered roles can plausibly complicate existing stressors for female refugees by hindering access to healthcare and the social acceptability of mental health services for women. **METHODS:** This qualitative study aimed to assess mental health needs and healthcare seeking experiences of reproductive aged Afghan women who were resettled in Northern Virginia as refugees asylum seekers or under humanitarian parole. Study methods included semi-structured interviews in individual or focus-group settings with 8 women. Participants came from diverse ethnic backgrounds and education levels. Interview questions covered mental and general health concerns and access to health services. Participants were asked about conditions producing displacement how displacement was experienced and coping strategies employed in times of hardship. Interviews were conducted with interpreters and audio-recorded by M.S. a visibly Muslim woman with six years of experience volunteering with Afghan refugees and a network of community relationships centered on local mosques. **RESULTS:** Interviews suggested a more successful refugee migration to Northern Virginia than initially expected. Participants described post-displacement stressors including family separations physical pain and insomnia highlighting the intersectionality of physical

and mental health with traumatic experiences. However all participants emphasized personal and interpersonal strengths which could be drawn upon to cope. Their stories highlighted community relational support which they both benefitted from and provided to others. Participants generally expressed satisfaction with American healthcare systems and healthcare providers. Unexpectedly they did not express preferences for healthcare providers who shared Afghan cultural or linguistic backgrounds. 7 of 8 participants minimized the adverse emotional impacts of displacement and only one reported visiting a mental health professional. Participants did not indicate that they would negatively judge peers for seeking mental health care but 4 of 8 expressed skepticism about the efficacy of American therapy and mental healthcare methods. **CONCLUSIONS:** Findings suggest that mental health services for Afghan women should be organized around strength-based approaches rather than centering traumatization or victimhood to better align with cultural regard for resilience amidst adversity. Specific measures such as professional offices creating phone menu options in Dari or Pashto to assist non-English speaking callers seeking medical or social services could also be useful. Overall interviews revealed broader diversity than expected among female Afghan refugees when invited to speak in their own voices about their health needs and experiences of displacement.

Saturday May 04

### **Systematic review of substance use disorders and mental illness among multiracial Youth**

*Madeline Jansen MPH;MD; David Miklowitz Ph.D.*

**Background:** Multiracial individuals are the fastest growing U.S racial group comprising 6.9% of adults and 14.3% of youth [1]. Available evidence suggests that multiracial youth experience higher rates of substance use disorders than any other racial or ethnic group [2-5]. Available evidence also suggests that multiracial youth experience higher rates of mental illness than any other racial group including depression anxiety self-harm and suicide [2-5]. Despite these findings this issue has yet to be explored through systematic review methods which would allow for more clear and comprehensive understanding of these important substance use and mental health trends. In order to address this important gap in the literature a systematic review of incidence of substance use disorder and mental illness among multiracial youth was undergone. **Methods:** 3 data bases were searched including embase PsycINFO and Pubmed. Several search terms were used including multiracial OR “multiple races” OR “mixed race” + teen OR adolescent OR teenager OR youth OR child + substance use OR substance use disorder OR addiction OR mental illness OR mental health. We included only peer-reviewed articles which contained original research findings focusing on substance use or mental illness incidence in Multiracial youth. **Results:** A total of 420 articles were identified and after removing duplicates 60 relevant articles were identified. We found elevated rates of multiple substance use disorders among Multiracial youth including opioid use disorder cannabis use disorder alcohol use disorder and tobacco use disorder. We also found elevated rates of mental illness including depression anxiety self harm and suicide attempts. **Conclusion** Further

research is needed to understand protective and risk factors contributing to substance use disorder and mental illness in Multiracial Youth. Protective factors such as family support and healthy racial identity development may be important to explore especially with regard to potential avenues for prevention and intervention.

Saturday May 04

### **The effect of corticosteroid therapy on the mood of sample of patients with autoimmune disease**

*Mohammed Hamouda M.D.*

Background; Major depressive disorder (MD) is a serious mental health problem predicted to be the leading health burden worldwide by 2030<sup>12</sup>. MD increases markedly during adolescence and young adulthood: 25% of lifetime mood disorders appear by 18 y of age and 50% by the age of 30 y<sup>3</sup>. The role of corticosteroids use in the origin and development of depression was studied at many Previous studies that found significant depressive symptoms and depression among persons receiving corticosteroids as treatment<sup>9</sup> Aim and objectives; to assess the prevalence of post cortisone therapy depression among sample of patients who received cortisone Subjects and methods; This cross sectional study was conducted in Al-Azhar University Hospitals. This study was conducted on 50 cases. Result; The results of Beck Depression Inventory showed that all questions related to this questionnaire had significant increase after corticosteroid therapy. Before corticosteroid therapy the total score had a mean of  $6.02 \pm 2.05$   $11.28 \pm 7.94$  after corticosteroid therapy that indicates significant increase of total score after corticosteroid therapy compared to before therapy ( $p < 0.001$ ) no one of the

sample had depression before corticosteroid therapy (0%) according to Beck depression inventory . While after corticosteroid therapy 13 (26%) cases had depression and 10% were mild 6% were moderate 8% were severe and 2% were very severe. Presence of depression and severity of depression were significantly higher after corticosteroid therapy compared to before therapy

Saturday May 04

### **The Role of Cultural Isolation in Contributing to Mental Illness: A Literature Review**

*Yarden Segal*

This literature review aims to explore the relationship between cultural isolation and its potential contribution to the development and exacerbation of mental illness. The review included studies that examined various factors such as psychiatric familial and social factors as well as immigration status. A comprehensive literature search was conducted across three publicly available databases (Embase American Psychological Association PsycINFO and PubMed) using specific search terms related to immigration social and cultural isolation and acculturation. By synthesizing existing research this review provides a comprehensive understanding of the mechanisms prevalence and implications of cultural isolation on mental health. Mechanisms contributing to this relationship included limited access to culturally relevant social support discrimination acculturative stress and cultural identity conflicts. Notably some studies identified protective factors such as strong ethnic community ties and cultural maintenance that mitigated the adverse effects of cultural isolation on mental health. Cultural isolation can have profound

implications for the mental well-being of individuals from culturally diverse backgrounds. The findings underscore the importance of developing culturally sensitive interventions and support systems that address the unique challenges faced by individuals experiencing cultural isolation. Future research should focus on longitudinal studies and explore the cultural factors that promote resilience and positive mental health outcomes within culturally isolated populations.

Saturday May 04

### **Understanding of COVID-19 and Mental Health of Migrant Workers presenting to the Emergency Service of a General Hospital for COVID-19 Screening**

*Andre Teck Sng Tay MBBS MMed (Psychiatry) MRCPsych; Tabitha Mok; Cheryl Loh; Steven Hoon Chin Lim; Janet Chang*

Introduction: Migrant workers (MW) form one-fifth of Singapore's resident population. With rising COVID-19 infections we aim to:

1. Describe disease knowledge attitudes and behaviors among MW; 2. Describe mental health concerns among them. Methods:

Design: Cross Sectional Descriptive Study.

Setting: Hospital Swab and Send Home [SASH] Isolation Facility (HOSIF) in an emergency service of a general hospital.

Participants: Symptomatic MW living in dormitories sent to HOSIF for COVID-19 screening.

Duration: 10-month period from May 2020 to February 2021. Measurement:

Self-administered anonymized questionnaires translated to the MW's native languages (Bengali Tamil and Mandarin) comprising data related to demographics COVID-19 (knowledge attitudes behaviors)

Kessler Psychological Distress Scale (K10) and others (worries hospital experience

support and written feedback) were filled in during their stay at HOSIF. Results: 223 (80.5%) of 277 participants who responded completed all components of the questionnaire. Demographics: Mean age 34.1 years old 89.2% from Bangladesh and India 98.6% male 61.8% married with 54.8% having children. 94.3% had a religion (54.1% Muslims). 81.5% working in a foreign country for the first time with 73.5% working in Singapore over the past 5 years or more. 62.2% worked in the construction industry and 12.0% spoke English. 52.0% felt they knew nothing or a bit about COVID-19. 81.6% thought it was dangerous when they first heard of this disease with 72.2% continuing to believe that it was dangerous by the time they responded to the questionnaire. 86.1% were aware that COVID-19 could be spread easily from person to person and 85.2% thought that being separated from others could help reduce COVID-19 spread to them. 15% had potential disease knowledge gaps. Although 64.1% felt this was the biggest problem they had ever faced all of them (93.7% Yes 6.3% Maybe) showed confidence that they could overcome COVID-19 if they got it. 57.0% were likely to be well (mean K10 score of 19 [SD 7.2]) and 19.2% were likely to have a moderate to severe mental health disorder. Discussion: 15% lacked basic disease knowledge and the perceived lack of knowledge (52.0%) might account for the high level of perceived disease dangerousness. Around one in 5 were likely have a moderate to severe mental health disorder with worrying about family (70.2%) as the main stressor. Staying connected with their loved ones and reliance on faith and religion helped reduce stress. Measures to facilitate connection with family and freedom of worship within safety limits should be considered. Providing basic mental health information leaflets in the native languages of

MW peer support counseling services early detection and referral easier access to affordable mental health services should be explored. Conclusion: Improvements can be made to the MW's disease knowledge with infection preventive measures and their mental health needs addressed further.

Sunday May 05

### **Association Between C-Reactive Protein Level and Cortical Thinning in Major Depressive Disorder**

*Youbin Kang; Kyu-Man Han*

Background: Recent studies have highlighted the role of immune dysregulation in the etiopathogenesis of major depressive disorder (MDD). C-reactive protein (CRP) is a pentameric acute-phase reactant protein used as a biomarker of infection chronic disease and chronic low-grade inflammation. Previous studies have provided valuable insights into the relationships between elevated CRP levels depressive symptoms and antidepressant responses. However despite encouraging and intriguing findings only a limited number of studies have examined the neuroanatomical alterations associated with CRP levels in depression. Therefore in the current study we investigated the underlying association between alterations in cortical thickness and serum CRP levels in patients with MDD. Methods: A total of 76 patients with MDD and 65 healthy individuals (HCs) were included in this study. All participants underwent T1-weighted magnetic resonance imaging and peripheral blood collection. The plasma was separated within 30 minutes and the resulting supernatant was stored at a temperature of -80 °C before the evaluation of CRP levels using a highly sensitive human premixed multi-analyte assay. Additionally the

association between whole-brain cortical thickness and serum CRP levels in the total sample was investigated using the FreeSurfer software. Results: Compared to HCs the MDD group demonstrated a significantly high level of CRP ( $P = 0.039$ ). In vertex-wise analyses significant cortical thinning was present in the left inferior temporal gyrus ( $P = 0.00080$ ) left superior frontal gyrus ( $P = 0.00200$ ) left rostral anterior cingulate ( $P = 0.00719$ ) right postcentral gyrus ( $P = 0.00020$ ) right lateral orbitofrontal gyrus ( $P = 0.00060$ ) and insula ( $P = 0.02563$ ). In contrast a significant increase in cortical thickness was observed in the left lingual gyrus ( $P = 0.01732$ ) and right precentral gyrus ( $P = 0.00020$ ). The increase in serum CRP levels was associated with cortical thinning in the left precentral gyrus ( $P = 0.00020$ ) bilateral superior frontal gyri (left:  $P = 0.00020$ ; right:  $P = 0.00599$ ) left inferior temporal gyrus ( $P = 0.00020$ ) and left rostral middle frontal gyrus ( $P = 0.03980$ ). Moreover the increase was also mildly associated with an increase in cortical thickness in the left postcentral gyrus ( $P = 0.01534$ ) and the right medial orbitofrontal gyrus ( $P = 0.00778$ ). Conclusions: The results of this study raise the possibility that an increase in serum CRP levels may lead to cortical thinning in the superior frontal gyrus and inferior temporal gyrus. Considering that cortical regions are involved in emotional regulation and cognitive control the findings provide novel insights into the possible pivotal role of CRP levels in the development of MDD through its impact on structural alterations of emotion regulation-related neural circuits.

Sunday May 05

### **A Prospective Multi-center Randomized Controlled Blinded Trial of Vagus Nerve**



## **Stimulation for Difficult to Treat Hyper-resistant Major Depression**

*Vasilis Hristidis M.D.; Charles Conway; Scott Aaronson*

Background: Vagal Nerve Stimulation (VNS) was FDA-approved for treatment-resistant major depression (TRMD) in 2005. In 2007 the US Centers for Medicare and Medicaid Services (CMS) issued a “non-coverage decision” limiting access to VNS for TRMD. In 2019 CMS requested a “coverage with evidence trial” to study VNS efficacy in Medicare patients with TRMD. The RECOVER Trial a large multi-center (84 US sites) randomized double-blind sham-controlled trial assesses VNS efficacy over 12 months. Methods: Inclusion criteria: ?18 years old Major Depressive Disorder (MDD) or Major Depressive Episode (MDE) current in unipolar/bipolar disorder chronic (?2 years) or recurrent (?4 MDEs) failure of four record-verified antidepressant (AD) treatments in current MDE and a score of ? 22 on the Montgomery Åsberg Depression Rating Scale (MADRS). Exclusion criteria: substance use disorder (past year) lifetime psychosis acute suicidal ideation/intention and severe personality disorders. All subjects were implanted and randomized to active treatment (device on) or sham (device off) for 12 months. The primary outcome is months in response (active vs. sham; 50% reduction from MADRS baseline) during the 12-month sham-controlled period. RECOVER secondary outcomes include MDD remission and changes in quality of life overall function/disability and suicidal ideation. Results: Presently 500 unipolar patients were randomized with a median age of 58.0 years median MADRS of 34.5 and 80.6% being judged as severely ill using the Clinical Global Impression (CGI). With the Quality of Life Enjoyment and Satisfaction Questionnaire –

Short Form (Q-LES-Q-SF) the sample reported a low baseline quality of life (median Q-LES-Q-SF of 34 max = 70). The median age of MDE onset is 25.0 with a median of 18.7 years in MDE (36% lifetime). The sample has high suicidal ideation (77% positive); 40% have one or more suicide attempts. Median failed lifetime AD treatments and medications is 11.0 and 10.0 respectively. Most (64%) participants had received interventional (IT) AD treatments in the current MDE: repetitive transcranial magnetic stimulation (rTMS; 50%) electroconvulsive therapy (ECT; 38%) and ketamine (24%); 35% had received 2 of these three treatments 7% all three. To date 300 patients (including withdrawals) have completed the trial’s first year. Further analysis of those patients who had received IT in the current MDE found vis-à-vis those without IT exposure them to be younger more severely depressed with greater suicidal ideation and earlier onset of MDD. Conclusions: RECOVER is the largest device-based TRMD treatment study conducted to date and is enrolling well-characterized severely resistant MDD patients including many who have failed interventional treatments. It will provide better understanding of VNS responsivity (e.g. onset of response and baseline outcome predictors) and VNS effects on quality of life overall function and suicidal ideation.

**Sunday May 05**

## **An explanatory analysis of intravenous ketamine dose frequency in an outpatient clinic for patients with depressive symptoms**

*Jin Yan; Grace Pham Ph.D.;D.O.; Nicholas Murphy; Brittany O'Brien; Sanjay Mathew M.D.*

Objective Ketamine (KET) has been shown to treat suicidality through rapid NMDA receptor

antagonism and intravenous (IV) KET infusions have a rapid onset of efficacy in treatment-resistant depression. However clinical practice varies widely in the duration of an induction course of IV KET ranging from weekly infusions over 4 weeks to thrice weekly for 2 weeks etc. Our objective was to use real world clinical data to investigate characteristics distinguishing patients requiring a greater number of IV KET infusions. Methodology This observational study identified 177 patients with self-reported depressive symptoms who received KET infusions at an outpatient clinic in Houston TX and completed a Quick Inventory of Depressive Symptomatology-Self Report (QIDS-SR) prior to infusion at each visit. Patients had either 4 infusions within 4 weeks (group 1) or 8 infusions within 8 weeks (group 2) and these infusions were their first at the clinic. Group 1 had 114 patients and group 2 had 63. Visit 4 and 8 QIDS-SR were compared to baseline QIDS-SR with paired t-tests and differences between groups at these time points were assessed via ANCOVA. Results For groups 1 and 2 respectively the sample was 45% and 48% male had a mean age of 41.8 and 38.3 had a mean body-mass index (BMI) of 28.3 and 26.5 and had a mean baseline QIDS-SR score of 16.4 (4.9) and 17.8 (4.2). Group 1 had a statistically significant decrease (mean difference = 11.5) in QIDS-SR at visit 4 compared to baseline ( $p < .001$ ). Group 2 also saw a significant decrease in QIDS-SR at visit 4 ( $p < .001$ ) and visit 8 ( $p < .001$ ) compared to baseline QIDS-SR with a mean difference of 6.81 and 9.05 points respectively. For group 1 response rate (? 50% change in QIDS-SR) at visit 4 was 99.1% and remission rate (QIDS-SR ? 5) was 60.5%. For group 2 response and remission rates were 40.3% and 12.3% at visit 4 and 51.6% and 26.2% at visit 8 respectively. ANCOVA results revealed that group 1 QIDS-SR reduction at

visit 4 was significantly greater than that of group 2 after controlling for baseline QIDS-SR ( $p < .001$  ? $p_2 = .41$ ). Another ANCOVA comparing group 1 and group 2 responders showed that the former had significantly lower QIDS-SR scores at visit 4 after controlling for baseline ( $p < .001$  ? $p_2 = .089$ ). Discussion The results of this analysis reveal that group 1 saw better outcomes than group 2 at visit 4. Patients in group 2 who continued infusions with the same frequency after visit 4 (as opposed to group 1 which reduced frequency of infusions after visit 4) likely did so due to a less robust response suggesting more resistant depressive symptoms. Although patients were not randomized to groups this study has important implications regarding how the optimal course of IV KET treatment may vary by patient symptomology. Further studies are needed to determine best practices for IV KET treatment of clinical depression in outpatient clinic settings.

Sunday May 05

### **Automatically Extracted Linguistic Features of MADRS Clinical Interview are associated with Depression Severity**

*Eric ETTORE; Nicklas Linz; Felix Dörr; Michal Balazia; Alexandra König*

Background: Today clinical states are measured by using question-based scales related to specific symptomatic domains which may be subject to biases. Identifying objective markers of psychiatric diseases such as Major Depressive Disorder (MDD) is necessary for differential diagnosis improved disease classification and treatment. With the current rise of the use of Artificial Intelligence (AI) in healthcare personalized management of mental disorders is moving forward. Hence technology-based behavioral sensing for instance through automatic

speech analysis may prove to be effective in measuring subjective communicative functioning making inferences about symptoms and guiding treatment management. This project aims to detect automatically extractable linguistic markers which are associated with depressive symptoms and could potentially be used in automated speech analysis. Methods: For this 29 patients diagnosed with MDD were recruited at the psychiatric clinic at the University hospital in Nice France. They underwent a clinical semi-structured interview (Montgomery-Asberg Depression Rating Scale (MADRS) with their psychiatrist which was audio recorded. Audio files were processed and speaker diarization performed to separate both speakers (patient and clinician). Subsequently linguistic features were automatically extracted from the recorded and cut audio files. In an exploratory approach features were identified which showed associations with the overall MADRS score as represented by significant Spearman Rank Sum Partial Correlations while controlling for participants' age and gender. Results: A total of 4 features emerged to be significantly related to the overall MADRS score as can be seen in Table 1. While the adverb rate was negatively correlated with the overall score ( $r = -.456$   $p = .022$ ) the determiner rate showed a positive correlation ( $r = .457$   $p = .021$ ). Similarly the proportion of verb phrases with an object ( $r = .444$   $p = .026$ ) as well as Honore's Statistic ( $r = .399$   $p = .048$ ) a measure of lexical richness showed positive association with the MADRS total score. Our results suggest a pattern of certain linguistic changes associated with depression severity as measured by the MADRS namely an increase in the usage of certain types of speech such as determiners and verb phrases and a decrease in others such as adverbs. Somewhat surprisingly

more severely depressed patients show a richer vocabulary than those who are less severely depressed. Conclusion: Our project identifies linguistic markers of speech that hold promise for an objective diagnosis of MDD. To validate their potential further longitudinal and prospective studies are needed using an unframed and more naturalistic speech tasks. Ultimately the automatic speech-based analysis of depressive tendencies can be significantly faster and cheaper administered than alternative methods and this even remotely.

Sunday May 05

### **Childhood adversity and mental health in psychiatric patients: The moderating effects of resilience and loneliness during the COVID19 Pandemic.**

*Mark Lukowitsky PhD; Jeffrey Winseman M.D.*

Objective: This study explores the relationship between adverse childhood experiences (ACEs) depression and suicidal ideation and how resilience and loneliness moderated these connections as COVID-19 restrictions eased. Background: ACEs are robust predictors of mental health disorders including depression and suicidality. Loneliness and social isolation emerged as significant public health concerns during the federal enactment of social distancing policies and widespread lockdowns potentially exacerbating these issues. However recent studies have revealed heterogenous results indicating that not all people experienced loneliness equally. While individuals whose early life experiences were characterized by adversity may have been particularly vulnerable during the pandemic some have observed that negative life events including pandemics are followed by resilience. Indeed the presence of even one

stable and supportive other has been shown to foster resilience and attenuate the negative outcomes associated with ACEs. Methods: Patients (N=182) presenting for in-person intakes at a large community mental health clinic between July 2021 & August 2023 were asked to complete assessments measuring adverse childhood experiences loneliness (UCLA-3LS) resilience (CD-RISC) and depression and suicidality using the Treatment Outcome Package (TOP). Results: Approximately half the sample (49.5%) reported 4 or more ACEs. Participants also endorsed modest levels of suicide (average Z-score=1.62) and moderate levels of depression (average Z-score=2.16). Over half the participants (54.9%) reported having 2 or fewer close friends and nearly 13% reported having none. Using the Hayes PROCESS macro we found significant interactions effects between the total number of ACEs and resilience on depression ( $F=5.42$   $p<.05$ ) and suicidality ( $F=6.12$   $p<.05$ ) indicating that resilience buffered the impact of ACEs on these outcomes. Additionally we found evidence for an interaction between ACEs of neglect and reported feelings of loneliness on suicidality ( $F=6.17$   $p<.05$ ). Conclusions: These findings suggest that as COVID19 restrictions eased resilience may have played a crucial role in attenuating the impact of ACEs on important mental health outcomes including depression and suicidality. However for individuals reporting high ACEs of neglect experiences of loneliness exacerbated suicidality. These results underscore the importance of resilience and social support as preventive measures during times of stress to mitigate the effects of early life adversity on adult mental health.

Sunday May 05

## **Correlation of LSD Microdose Experience with Depressive Symptom Improvement**

*Laura Rosas M.D.; Hanna Molla; Harriet de Wit*

Background: Existing pharmacotherapies for depression can be limited by tolerability long latency to therapeutic response and variable therapeutic benefit. Psychedelics are thought to disrupt neural networks that encode thought and behavior habits which makes them promising for internalizing disorders like depression. Although research into treatment with psychedelics is growing a subset regarding microdoses remains understudied. We previously showed that individuals with mild depression had larger symptom improvement after taking a low dose of LSD compared to non-depressed volunteers. Our focus is a secondary outcome of that study. We looked at differences in the 5 Dimensions of Altered States of Consciousness (5D-ASC) scale which includes three domains: oceanic boundlessness (OB; measure of positive affect altered states) anxious ego dissolution (AED; measure of negative affect altered states) and visionary restructuralization (VR; measure of perceptual effects). We hypothesized that participants who reported greater LSD-induced increases in OB and VR (and decreases in AED) would exhibit greater improvement in symptoms 48 hours after the dose. Methods: The original study used a double-blind placebo-controlled cross-over design in which participants received a sublingual low dose of LSD (26  $\mu$ g) and placebo separately during two 5-hour laboratory sessions at least seven days apart. In the present analysis we examined acute responses to LSD in participants with baseline Beck Depression-II inventory (BDI) scores of  $> 17$  (N=20). Two main outcome measures were i) Change in BDI scores from baseline to 48 hours after LSD and placebo

sessions and ii) Change in 5D-ASC domains from baseline to immediately after LSD and placebo administration. Three Pearson correlation tests compared the changed BDI scores to the changed 5D-ASC domain scores. Results: All correlations were nonsignificant (OB  $r=0.09$   $p=0.71$ ; AED  $r=0.22$   $p=0.36$ ; VR  $r=0.13$   $p=0.60$ ). A negative correlation would indicate that having more experiences in that domain relates to symptom improvement while a positive correlation would indicate fewer experiences in that domain relates to symptom improvement. Conclusion: This study does not support the idea that psychedelic-like subjective effects of a microdose are associated with depressive symptom improvement. These findings add to the clinical question about what aspects of the drug effect contribute to psychedelic therapy. Low-dose LSD's mood-enhancing effect may occur through a mechanism unrelated to 5D-ASC measured state changes of consciousness. However the domains on the scale could have been too broad or specific to detect a difference. Also the sample size may have precluded the power to detect significant differences.

Sunday May 05

### **Discriminating Depression: Evaluation of Natural Language Processing and Speech Analysis in Identifying Unipolar vs Bipolar Disorders**

*Yusei YAMAGUCHI; Hidehiko Takahashi;  
Yoshinobu Kano; Hironobu Nakamura;  
Taishiro Kishimoto*

Background: Language and speech data are critical for psychiatric diagnosis. With the rise of natural language processing (NLP) and speech analysis their applications have the potential to predict psychiatric conditions

and their severity. This research overcomes common hurdles such as dataset scarcity and integrates psychiatric assessments to predict the diagnosis of mood disorders. It also pioneers the use of NLP and speech analysis to distinguish between unipolar and bipolar depression. Methods: This study is part of the Understanding Psychiatric Illness through Natural Language Processing (UNDERPIN) project. The UNDERPIN project encompassed 97 major depressive disorder (MDD) patients and 62 bipolar patients alongside 97 healthy control subjects recruited from medical facilities in Japan. All participants were assessed using the Hamilton Depression Rating Scale (HAM-D) and the Young Mania Rating Scale (YMRS). They participated in 30-60 minute interviews which were repeated 2-5 times. The interviews were recorded in separate channels for each speaker then manually transcribed. Regarding NLP analysis utilizing models such as GINZA (a spaCy Japanese-language model) and BERT which was fine-tuned on the dataset based on Plutchik's eight basic emotions we identified approximately 80 linguistic features. Regarding speech analysis we conducted using openSMILE 3.0 extracted acoustic features such as fundamental frequency and Mel-frequency cepstral coefficients (MFCC). Our samples consist of 430 with MDD 347 with bipolar disorder and 235 healthy controls. Discrimination between unipolar and bipolar depression is focused on 195 and 116 samples respectively using subjects with HAM-D scores  $\geq 8$  and YMRS scores  $\geq 7$  indicating a depressive state without manic or mixed episodes. We employed the Catboost algorithm for classifying diagnoses in a supervised learning context. The dataset was divided into two sets: 90% for training and 10% for testing. To ensure the model's robustness and generalizability a 10-fold



cross-validation was conducted on the training set. Finally the trained model's performance was evaluated on the test set focusing on sensitivity and specificity as the primary metrics. Results: The study achieved considerable discriminative performance with sensitivities and specificities: 0.910 and 0.791 for healthy vs MDD 0.864 and 0.875 for healthy vs bipolar disorder 0.742 and 0.863 for unipolar vs bipolar depression (bipolar was defined positive). In discriminating between unipolar and bipolar depression the features from speech analysis such as the mean value of MFCC4" emerged as the most important. Conclusion: The findings confirmed the usefulness of NLP and speech analysis in psychiatric assessment. In particular these techniques may improve the discrimination between unipolar and bipolar depression. The study was supported by the Japan Science and Technology Agency CREST under Grant Numbers JPMJCR1684 and JPMJCR19F4."

Sunday May 05

### **Efficacy and tolerability of intranasal esketamine versus intravenous ketamine treatment for treatment resistant depression: An observational study**

*Gilmar Gutierrez M.D.; Gustavo Vazquez M.D.*

Background: Intravenous (IV) ketamine and intranasal (IN) esketamine have been studied as novel therapeutic alternatives for the management of treatment resistant depression (TRD). They have demonstrated rapid and potent reduction of depressive symptoms after the administration of both single and multiple subsequent doses. The objective of this observational pilot study is to compare the real-world effectiveness and tolerability of IV ketamine versus IN esketamine in the management of unipolar

TRD. The hypothesis of this study is that both ketamine and esketamine treatments will have similar efficacy and tolerability. Methods: These are the preliminary results for a multicenter prospective observational study of naturalistic clinical practice still in progress. Patients (n=60) experiencing moderate to severe TRD referred to receive IV ketamine (n=30) or IN esketamine (n=30) treatments are being recruited. Effectiveness of these treatments is assessed using the Montgomery and Åsberg Depression Rating Scale (MADRS) for depression severity and item 10 of the MADRS for suicidal ideation (SI). Tolerability is assessed by tracking side effects and depersonalization using the 6-item Clinician administered dissociative symptom scale (CADSS-6) depersonalization scale. The data will be analyzed using descriptive statistics risk ratio (RR) and effect size using Cohen D (d) analysis. Results: These preliminary results use the data collected by two research centers. 17 patients referred to receive IV ketamine (65% female 54.59±14.55 years old) and 12 referred to receive IN esketamine (75% female 49.42±14.26 years old) have been recruited so far. Both ketamine (d=3.07 p<0.0001) and esketamine (d=1.36 p=0.00081) groups presented a rapid and significant reduction of depressive symptoms severity at endpoint (4 weeks) with large effect size. The ketamine group experienced a significant reduction in SI (d=1.14 p=0.0027). Compared to IN esketamine IV ketamine was significantly more effective at reducing depression symptoms with a large effect size (d=0.99 p=0.020) though it also presented a significantly higher risk of developing side effects (RR=1.37 p=0.0046). All side effects reported were mild and transient with the most common side being sedation or drowsiness present in over 40% of patients. One patient has dropped out before

completing their respective treatment in each arm. Conclusions: These preliminary results suggested that both IV ketamine and IN esketamine have similar effectiveness in the management of depressive symptoms. Though they differed in the management of SI and side effect profile both treatments were well tolerated. Thus these results provide additional evidence for the treatment of patients with TRD in real life clinical setting and could serve to guide clinical practice and health policy.

Sunday May 05

### **Evaluating Functional Outcomes in Major Depressive Disorder: A Patient Interview Study**

*Erin Gallagher; Mousam Parikh; Kathy Vong; Harlow Sharp; Tina Matthews-Hayes DNP*

**Background** Many patients with major depressive disorder (MDD) experience functional deficits. Even for patients who achieve remission those who do not attain normal functioning have a greater risk of relapsing than those who do highlighting the importance of functional recovery. To better understand the effects of MDD on patient functioning we developed a conceptual model based on a literature review and enhanced it based on qualitative patient interviews to make it more patient-centric.

**Methods** A literature review was performed to identify clinical outcomes assessments and develop a literature-based conceptual model of functional outcomes in MDD. Following institutional review board approval qualitative interviews were conducted with participants from 3 US clinical sites. An interview guide was used to elicit and understand functional impairments experienced by patients using spontaneous and probing approaches. Interview results

were analyzed and used to revise the literature-based conceptual model. Results Following the literature review 80 abstracts informed clinical outcomes assessment identification and 34 articles supported the development of a conceptual model of functional outcomes in MDD. The literature-based model comprised 6 domains: cognitive (eg lack of attention/difficulty concentrating) physical (eg chest tightness) sexual dysfunction (eg decreased libido) work (eg autonomy) sleep (ie poor sleep quality) and social (eg family relationships). A total of 20 adults with MDD participated in the interviews. On average participants were 38.6 years old female (60.0%) and had an MDD diagnosis for 4.9 years. Most participants (70.0%) indicated that their first signs/symptoms of depression appeared before the age of 18 years. The following functional outcomes were identified during interviews: emotional cognitive social physical work/school sexual dysfunction activities of daily living and sleep. Difficulty falling asleep apathy and negative impact on satisfaction with sex were reported to be the most bothersome functional outcomes on average. After analysis of interview results the revised conceptual model included the following additional or revised domains: emotional functioning (eg hopelessness) work/school functioning (eg decreased productivity/presenteeism) and functioning related to activities of daily living (eg negative impact on personal hygiene). Conclusion Overall these results highlight the broad impact that MDD has on patient functioning directly from a patient perspective. Future studies evaluating functional outcomes in MDD should consider measuring these concepts. This study was supported by AbbVie.

Sunday May 05

## **Exploring State and Trait Characteristics Based on Temperament in Patients with Major Depressive Disorder**

*Kyeong Kang M.D.; Christopher Park*

**Background:** Affective temperament is associated with various clinical characteristics in patients with mood disorders. However little is known about clinical characteristics based on affective temperament specifically in patients diagnosed with major depressive disorder (MDD). This study aims to explore the impact of affective temperament on both the traits and states of patients diagnosed with MDD. **Methods:** This study analyzed the data from a routine symptom questionnaire administered to outpatients with MDD aged 18 to 49 presenting for their initial visit to the psychiatric department in a tertiary hospital. Affective temperament was assessed using the Temperament Evaluation of the Memphis Pisa Paris and San Diego-Autoquestionnaire. A Z-score of 1 or higher on each affective temperament was considered indicative of the presence of the respective affective temperament. The patients completed various assessments including the Patient Health Questionnaire-9 (PHQ-9) Generalized Anxiety Disorder-7 (GAD-7) Seasonal Pattern Assessment Questionnaire Hypomania Checklist-32 Interpersonal Sensitivity Measure and Depressive Symptom Index - Suicidality Subscale. Multiple linear regression analysis was conducted to analyze our data. **Results:** There were 247 patients with a mean age of  $29.34 \pm 9.16$  of whom 152 (61.5%) were female. There were 50 patients (20.2%) with cyclothymic temperament 55 patients (22.3%) with depressive temperament 49 patients (19.8%) with irritable temperament 42 patients (17.0%) with hyperthymic temperament and 56

patients (22.7%) with anxious temperament. Depressive ( $r = 0.247$   $p < 0.001$ ) and irritable temperament ( $r = 0.138$   $p = 0.032$ ) were positively associated with the scores of PHQ-9 while hyperthymic temperament ( $r = -0.123$   $p = 0.041$ ) showed a negative association. Furthermore depressive ( $r = 0.246$   $p < 0.001$ ) irritable ( $r = 0.195$   $p = 0.002$ ) and cyclothymic temperament ( $r = 0.148$   $p = 0.018$ ) were positively associated with the scores of GAD-7. Cyclothymic ( $r = 0.211$   $p = 0.001$ ) and anxious temperament ( $r = 0.136$   $p = 0.027$ ) were positively correlated with seasonality. Also hyperthymic ( $r = 0.200$   $p = 0.002$ ) and cyclothymic temperament ( $r = 0.140$   $p = 0.036$ ) were positively correlated with hypomanic features. Cyclothymic ( $r = 0.255$   $p < 0.001$ ) depressive ( $r = 0.218$   $p < 0.001$ ) and anxious temperament ( $r = 0.173$   $p = 0.004$ ) were positively correlated with interpersonal hypersensitivity. Depressive temperament ( $r = 0.184$   $p = 0.004$ ) was positively associated with the severity of suicidality. **Conclusion:** Among patients with MDD variations in psychiatric states and traits were observed based on the dominant affective temperaments. This suggests an association between affective temperaments and diverse psychopathological manifestations. Consequently there appears to be a need for further research to elucidate the therapeutic implications associated with affective temperament.

Sunday May 05

## **Frailty is Associated with Depression in the Korean Elderly**

*JiIn CHOI*

**Background :** In the elderly frailty is known to increase the risk of depression and cognitive decline. In this cross-sectional study the impact of frailty levels on depression and

cognition was investigated among 320 elderly individuals aged 65 and above. Methods : 320 participants were classified into three groups based on the FRAIL scale : a score of 0 indicates 'Robust' a score of 1-2 indicates 'Pre-frail' and a score of 3 or higher corresponds to the 'Frail' group. Chi-square tests or analysis of variance (ANOVA) were used to compare demographic and socioeconomic factors among the three group. Logistic regression analysis was used to investigate whether frailty influences the presence of cognitive impairment and depression. Cognition was assessed using the Mini-Mental State Examination - Dementia Screening (MMSE-DS) and depression was evaluated using the Geriatric Depression Scale (GDS). Results : Out of a total of 320 individuals 87 (27%) were classified as Robust 114 (36%) were classified as Pre-frail and 119 (37%) were classified as Frail. There were no statistically significant differences in demographic and economic factors such as gender health insurance coverage marital status cohabitation status and monthly income based on the degree of frailty. There was a significant positive linear trend in GDS scores according to the frailty level ( $p < 0.001$ ). Pre-frail and Frail groups had higher odds of depression (OR=2.182  $p = 0.008$  and OR=3.864  $p < 0.001$  respectively). Adjusted analysis for age and schooling confirmed the significance of these associations ( $p = 0.010$  and  $p < 0.001$  respectively). There was also a significant positive linear trend in MMSE-DS scores according to the frailty level ( $P = 0.008$ ). However the odds of cognitive impairment in the pre-frail and frail groups compared to the robust group were not statistically significant ( $p = 0.606$  and  $p = 0.167$  respectively). MMSE-DS scores were affected by schooling age and GDS score but frailty group did not significantly impact MMSE-DS ( $P = 0.763$ ).

Conclusion : Individuals who are older than 65 years of age frailty was linked to higher odds of depression yet its association with cognitive impairment was not evident after adjusting for other factors. this study highlights the association between frailty and depression and indicates the necessity for further research to gain a deeper understanding of the relationship between frailty and cognitive impairment. "

Sunday May 05

### **Geographical Distance and Being a Single Parent Predict Retention for Underserved Hispanic Women with Concurrent Major Depression and Breast Cancer**

*Carlos Blanco M.D.; Ying Chen MD DrPH MA; John Markowitz M.D.; David Hellerstein M.D.*

Background: Depression is one of the most common comorbid psychiatric disorders for patients with breast cancer (BC) and can decrease patient's quality of life and negatively affect cancer treatment results if untreated. We identified treatment barriers to women with BC who sought psychotherapy for depression. Such findings may help policy makers and researchers with decision making when funding and designing future studies that involve this population especially in communities with high rates of health disparities. Methods: We used data from a randomized trial for women with BC and current diagnosis of non psychotic unipolar major depressive disorder (MDD). Patients were randomly assigned to 12 weeks of one of three psychotherapies and attrition was assessed by whether subjects had week 12 assessments. Descriptive analyses and logistic regression were used to identify barriers. Statistical softwares R SAS and SPSS were used. Results: 134 patients were randomized of whom 84 (62.7%) were

Hispanic. 59 (44%) were either nonstarters or dropouts and 49 (83.1%) of them were Hispanic. Single motherhood status less educated and geographically distant from treatment center significantly predicted attrition. Compared to unemployed patients part-time workers were more likely to dropout ( $p=0.0166$ ). Conclusion: Identifying barriers to treatment is important to improve treatment adherence for patients with concurrent diagnosis of breast cancer and MDD especially for traditionally underserved minorities. Additional support such as affordable tele-medicine multi-language assistance financial aid for transportation and child care and allocating more funds to address some identified barriers deserve consideration to improve treatment adherence and outcomes.

Sunday May 05

### **Intravenous Ketamine in the Acutely Medically Ill: A Case Series of Hospitalized Patients on the Consultation-Liaison Psychiatry Service**

*Rohini Paul D.O.; Anna Piotrowski*

Background/Purpose: While intravenous ketamine and its role in treatment-resistant depression has been increasingly studied research on ketamine for treatment of depressive symptoms outside of primary psychiatric conditions is limited. There is a gap in literature regarding the role of ketamine in treating acutely medically ill patients with comorbid depressive symptoms. The purpose of this case series is to present a novel approach of intravenous ketamine utilization in the depressed medically ill to promote increased patient engagement in medical care as otherwise impaired by comorbid psychiatric presentation. Method: We present a case series of three patients

hospitalized at Kaiser Permanente San Jose Medical Center for acute medical illnesses between June 2022 and September 2023 who required psychiatric consultation for evaluation and management of mood interfering with care delivery. All three patients also shared history of chronic pain and met criteria for MDD however were either unable to tolerate oral antidepressants secondary to impaired GI absorption or poor oral intake or did not show robust response. Indications for inpatient intravenous ketamine treatment were identified for all three patients and after meeting inclusion criteria for novel treatment protocol intravenous ketamine was administered at 0.5mg/kg for 3-4 sessions on average per patient during hospital stay. Results: Primary outcome of ketamine treatment was identified as increased patient engagement with medical care such as being more involved with personal medical decision-making participation with ancillary services such as physical and occupational therapy and adherence with medications and care delivery. Secondary outcomes were noted as improvement in mood reduction in depressive symptoms and willingness to continue psychiatric treatment in outpatient setting. Of the three patients two patients achieved both primary and secondary outcomes and have remained engaged in medical care post-hospitalization with stabilization of psychiatric symptoms. The third patient demonstrated mild improvement in mood during hospital stay however continued to refuse medical care; he was discharged AMA with poor outpatient follow-up. Discussion: These observations suggest that inpatient ketamine treatment may be considered as a reasonable alternative for acute psychiatric stabilization for patients who otherwise would be unable to receive mental health care in an inpatient psychiatric



facility given acuity of their medical needs. The goal of inpatient ketamine treatment is not the resolution of depression but rather the return of patient motivation as physical and mental relief is rapidly provided. Conclusion: These findings may inform future consultation-liaison practices to promote collaborative care with primary hospital services to mitigate prolonged hospital stays improve hospital resource utilization and facilitate pain management for complex pain patients.

Sunday May 05

### **Ketamine versus Electroconvulsive Therapy for Major Depressive Episode: A Systematic Review and Non-Inferiority Meta-Analysis**

*Arthur Petrucci; Isabelle Albuquerque Reis; João Fernandes; Leandro Valiengo; Victória Pedro*

Background: Electroconvulsive Therapy (ECT) is one of the most effective and rapid treatments for Major Depressive Episode (MDE) and is recommended by multiple guidelines as the standard treatment for acute depressive episodes. Nonetheless factors such as its limited availability and potential for cognitive impairment limit its use. Ketamine is an N-Methyl-D-aspartate (NMDA) receptor antagonist that has been increasingly researched as an alternative for treating depression. This meta-analysis investigated the comparative effectiveness of these two treatments. Methods: PubMed EMBASE and the Cochrane Library databases were searched for Randomized Clinical Trials (RCTs) that compared Ketamine and ECT for treating depression. Two independent authors screened the articles according to the predefined eligibility criteria and extracted the data of the included studies.

Efficacy outcomes included treatment response and the effect size on depressive symptoms. Treatment response was defined as a decrease of at least 50% in the measured depression scale scores from baseline to the end of treatment. For this outcome the prespecified non-inferiority margin was set at -0.1. Subgroup analyses were conducted for non-psychotic and inpatient populations. Safety outcomes included reported serious adverse effects. Results: Six trials were included in the meta-analysis comprising a total of 655 patients. In response to treatment (RR -0.05; 95% CI -0.20 to 0.11) and in effect size on depressive symptoms (SMD 0.54; 95% CI -0.02 1.09) there was no statistically significant difference between the groups. In subgroup analysis Ketamine was non-inferior to ECT for non-psychotic patients (RR 0.09; 95% CI -0.00 to 0.18) but it was inferior in the inpatient population (RR -0.16 95%; CI -0.26 to -0.05). Regarding adverse outcomes ketamine showed a low risk of cognitive impairments and muscle pain while ECT was associated with a lower risk of dissociative or depersonalization symptoms. Conclusion: The findings of this meta-analysis suggest that Ketamine is non-inferior to ECT in treating Major Depressive Episode in non-psychotic patients however is inferior for hospitalized patients with MDE.

Sunday May 05

### **Magnetoencephalography Changes During a Working-Memory Task in Treatment-Resistant Depression Patients Following a Ketamine Infusion**

*Adam Fijtman; Mani Yavi; Abigail Vogeley; Jessica Gilbert; Carlos Zarate M.D.*

Background: Individuals with treatment-resistant depression (TRD) frequently present

with cognitive deficits including in working memory. There is a lack of effective pharmacological interventions to treat cognitive dysfunction in patients with TRD. Ketamine has been studied for its rapid-acting antidepressant effects. Preliminary evidence suggests ketamine could improve cognition in patients with TRD through its synaptogenic effects on the prefrontal cortex. Magnetoencephalography (MEG) studies demonstrate that ketamine increases gamma power in parts of the occipital temporal and frontal cortices. This study aims to investigate the effect of ketamine on working memory performance (reaction time and accuracy on the n-back task) and on gamma power (30-58 Hz) in patients with unipolar and bipolar TRD. Methods: This post-hoc analysis combined two cross-over double-blind randomized placebo-controlled trials performed at the National Institute of Mental Health. Twenty subjects (14 female age mean 42.35 and SD = 11.10) 13 with bipolar disorder and 7 with major depressive disorder received a single intravenous infusion of subanesthetic ketamine (0.5 mg/kg) or saline placebo over 40 minutes approximately two weeks apart. The subjects performed an n-back task during MEG scanning at baseline and 6-9 hours following each infusion. Depression was assessed 60 minutes prior and 230 minutes after each infusion using the Montgomery-Åsberg Depression Rating Scale (MADRS). We used a mixed model regression to compare the effects of the drug on n-back performance after each infusion. All models included a random intercept per person and a fixed drug effect. Gamma power was projected during the maintenance period of the task (-500 to 0 ms peristimulus time) for each subject and memory load (0- 1- and 2-back) using the multiple sparse priors algorithm in SPM12. Two-way repeated measures analysis of variance examined the

effect of infusion (ketamine vs. placebo) and memory load on source-localized gamma power. Results: Ketamine led to a significant improvement on MADRS scores ( $p < 0.01$ ). Behaviorally there were no statistically significant differences comparing ketamine and placebo reaction time [(0-back:  $p = 0.66$ ) (1-back:  $p = 0.053$ ) (2-back  $p = 0.26$ )] or accuracy [(0-back:  $p = 0.61$ ) (1-back:  $p = 0.76$ ) (2-back:  $p = 0.46$ )] 6-9 hours post-infusions. While there was no effect of memory load on source-localized gamma power ketamine increased gamma power in the parieto-occipital junction ( $t = 2.61$   $p < 0.01$ ) and decreased gamma power in the posterior superior temporal sulcus ( $t = 2.5$   $p < 0.01$ ) and the inferior frontal gyrus ( $t = 2.51$   $p < 0.01$ ) compared to placebo. Conclusions: A single infusion of ketamine despite improving depression was not associated with improvements in working memory performance measured by the n-back task compared to placebo. However ketamine led to gamma power changes in regions associated with attention and working memory.

Sunday May 05

### **New Perspectives in the Treatment of TRD? A Descriptive Analysis of the STAR\*D and ESCAPE-TRD Studies**

*Narcís Cardoner Professor MD PhD*

Background: Major depressive disorder (MDD) affects 4-10% of the general population and is the leading cause of disability worldwide. Approximately 30% of patients with MDD meet the criteria for treatment-resistant depression (TRD). The lack of consensus on the therapeutic approach to TRD prolongs waiting times between treatments and increases the risk of death from any cause and the use of

healthcare resources. Real-world clinical practice often involves suboptimal approaches including the repetition of similar strategies and delayed treatment changes which are associated with unfavorable outcomes. **Methods:** This study presents a qualitative description of early remission rates in patients with TRD who have failed 2 or 3 or more therapeutic strategies as derived from the STAR\*D and ESCAPE-TRD studies. **Results:** As a third-line option the odds ratios (95% CI) for achieving early remission with the addition of intranasal esketamine were 5.43 (3.27 9.02) compared to the STAR\*D switching strategy and 2.53 (1.52 4.21) compared to STAR\*D augmentation strategies. For strategies of interest such as lithium augmentation or switching to tricyclic antidepressants (Nortriptyline) as a third-line option in TRD the odds ratios (CI) for early remission with the addition of intranasal esketamine were 3.87 (8.27 1.81) and 4.34 (8.00 2.36) respectively. As a fourth-line option the odds ratios (95% CI) for achieving early remission with the addition of intranasal esketamine were 3.04 (1.32 6.98) compared to STAR\*D switch to MAOI (tranylcypromine) and 2.72 (1.18 6.27) compared to switching to Venlafaxine + Mirtazapine combination. **Conclusions:** Understanding the most effective antidepressive interventions and their sequencing is an unmet clinical need in TRD. The impact on response and remission of intranasal Esketamine is at least twice that reported for different options both as a third- and fourth-line strategy in TRD. However further studies and real clinical practice experience are needed to validate these findings.

Sunday May 05

### **Race/Ethnicity Diet and Mental Health Outcomes using a Nationally Representative Sample**

*Manik Ahuja Ph.D. M.A.; Kajol Dahal; Thiveya Sathiyaseelan M.D.; Amani Patel*

**Background:** Nutritional psychiatry is an emerging field of research and it is currently exploring the impact of nutrition on mental health outcomes. Prior studies link nutrition and depression however less is known of how diet including fruit and vegetable consumption is linked to mental health outcomes at the race/ethnicity level. **Methods** We used cross-sectional data (n=438693) from the 2021 Behavioral Risk Factor Surveillance System a nationally representative U.S. telephone-based survey of adults aged 18 years or older. Logistic regression analyses were conducted to test the association between low fruit consumption low vegetable consumption and depression. We coded low fruit/vegetables consumption binary with 1 representing less than once a month in the last year and 0 for having fruit/vegetables on a monthly basis. We controlled for gender income depression age and educational attainment and stratified by race/ethnicity. **Results** Overall 7.8% (n=34.393) reported low vegetable consumption while 3.3% (n=14.654) reported low fruit consumption. Low fruit consumption is significantly associated with depression among White (OR=1.36 95% CI 1.30 1.42) Black (OR=1.45 95% CI 1.26 1.68) Asian (OR=1.88 95% CI 1.33 2.65) and Hispanic (OR=1.33 95% CI 1.16 1.52) race/ethnic groups. Low vegetable consumption is significantly associated with depression among White (OR=1.41 95% CI 1.37 1.46) Black (OR=1.20 95% CI 1.08 1.33) Asian (OR=1.34 95% CI 1.07 1.69) Hispanic (OR=1.21 95% CI 1.10 1.33) and American Indian/Alaska native (OR=1.45 95% CI 1.20

1.75) race/ethnic groups. Conclusion: The importance of a healthy diet and mental health should not be understated. The study found that there were so significant differences across race/ethnic groups and that regardless of race/ethnicity poor nutrition including fruits and vegetables is associated with higher odds of depression. Among American Indian/Alaska natives low vegetable consumption was linked to depression and not fruit consumption.

Sunday May 05

### **Readability and translation analysis of Spanish language self-reported measures in depression**

*Joseph Nickel; Emmanuelle Vanessa Camile; John Groggel; Kayla Lyon MD; Niki Jona*

Background: With increasing utilization of measurement-based care in psychiatry various screening questionnaires have been developed to assess depressive symptoms. In order to serve a wider audience several of these surveys have been translated into Spanish. Recent studies have found that measures in depression in the English language have been written at a reading level that exceeds AMA and NIH recommendations. To our knowledge this is the first study in psychiatry to analyze the readability of measures in the Spanish language. Methods: Measures in assessing depression were selected from systematic reviews and previous readability studies in English. Spanish translations were found by a publicly available literature search using PsycINFO ([apa.org/pubs/databases/psycinfo](http://apa.org/pubs/databases/psycinfo)) PubMed ([pubmed.ncbi.nlm.nih.gov](http://pubmed.ncbi.nlm.nih.gov)) and Google Scholar databases ([scholar.google.com](http://scholar.google.com)). The readability of each measure was calculated via Fernandez-Huerta and Indice Flesh-

Szigriszt (INFLESZ). The readability of the instructions and item sections were calculated separately. Measures with an average readability of greater than 6.00 were considered to be above the recommended reading level. Two certified Spanish translators analyzed the questionnaires for grammar syntax and comprehension ease. Results: Four out of ten measures (40%) had at least one component (instructions or items) written above the recommended reading level. The following measures were identified as above the recommended level: Beck Depression Inventory II Center for Epidemiological Studies-Depression Scale Kessler Psychological Distress Scale and the Columbia Suicide Severity Rating Scale. On translation analysis there were translation errors and comprehension concerns identified in nine out of ten measures. Conclusion: Currently many measures of depression in the Spanish language are written at a reading level that exceeds AMA and NIH recommendations. Thus providers should consider the importance of patient readability when translating PROMs. Clinicians and researchers should exercise caution when interpreting patient responses to questions or survey items that require reading levels exceeding the published standards.

Sunday May 05

### **Reliability and validity of the Spanish adaptation of the Stanford Proxy Test for Delirium (S-PTDsv) in two clinical communities.**

*Jose Maldonado M.D.*

Delirium is the most prevalent neuropsychiatric syndrome experienced by patients admitted to in-patient clinical units occurring in at least 20% of hospitalized

medically ill patients and up to 85% of those admitted to critical care units. Although current guidelines recommend the implementation of universal prevention strategies the use of management strategies largely depend on constant surveillance and screening. The aim of this study was to psychometrically adapt and analyze the Spanish adaptation of the Stanford Proxy Test for Delirium (S-PTDsv) instrument for its use among Spanish speaking populations.

**METHOD:** The psychometric properties of the S-PTDsv were evaluated in a population of 123 patients using a quantitative cross-sectional design. All subjects were over 18 years of age and hospitalized in various in-patient medico-surgical and ICU services either to the Barcelona Clinical Hospital (Barcelona Spain) or the UC-Christus Health Clinical Hospital (Santiago Chile). The ultimate diagnosis of delirium was independently and blindly made by a member of the Psychiatry Consult Service by means of an independent neuropsychiatric evaluation based on the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria. All study tests were performed by study personnel who were blinded to each other's test results and within an hour of each other. **RESULTS:** In the ROC analysis the S-PTDsv demonstrated excellent classification qualities when compared with the DSM-5 (gold-standard). Using a cut-off point of  $\geq 3$  the S-PTDsv had a sensitivity of 94% and a specificity of 97%. The AUC indicator was equal to 0.95 suggesting the S-PTDsv has an excellent overall performance in accurately identifying cases of Delirium. Accordingly the S-PTDsv's positive predictive value (PPV) = 0.93 and the negative predictive value (NPV) = 0.97. The internal reliability measured with Cronbach's Alpha was 0.96. Confirmatory factor analysis revealed a one-dimensional structure with high loadings

(>0.72) demonstrating that all items similarly contribute to the total diagnostic dimension suggesting adequate construct validity. This provided evidence of convergent validity. **CONCLUSION:** The performance of the S-PTDsv as compared to a blinded neuropsychiatric assessment based on DSM-5 indicates that it is an effective instrument for the detection of Delirium in the Spanish speaking populations.

Sunday May 05

### **Social Factors Associated with Involuntary Psychiatric Admissions among Substance Use Disorder Patients in Ontario Canada**

*Soyeon Kim; Kenneth Fung M.D.*

**Background:** Treatments for substance use disorder (SUD) are often challenging as patients may be in a pre-contemplative or contemplative phase of change refusing treatment or having ambivalence around treatment (1). Most countries have legislation mandating involuntary admissions when there is a perceived imminent danger to the individual or others due to mental health disorders or substance use (2). In the long term resorting to coercive admissions may disrupt patient-provider relationships and negatively affect treatment outcomes. Unfortunately information on involuntary admissions among SUD patients in Canada is limited (34). Accordingly this study investigated the prevalence and factors associated with involuntary admissions among SUD patients in Ontario Canada. **Methods:** Binary logistic regression models were conducted to examine associations between social factors (i.e. housing indigenous status rurality) and involuntary admissions for SUD patients controlling for age sex and education. Cross-sectional data from March 2019 to March 2021 was



extracted from the Ontario Mental Health Reporting System admission dataset. A sample of 3726 SUD patients admitted to eight psychiatric hospitals in Ontario was included in the analysis. Odds ratios (ORs) and 95% confidence intervals (95% CI) are reported. Results: From 2020 to 2021 the proportion and the total number of involuntary patients increased by 8.4 percentage points (n = 291) compared to the previous year among SUD patients [1.64 (1.38-1.95)\*\*]. Among SUD patients factors such as living in rural areas [5.18 (4.18-6.44)] less than high school education [2.07 (1.71-2.52)\*\*] living in assisted residence [2.45 (1.75-3.44)\*\*] homeless [1.54 (1.20-1.97)\*\*] male sex [1.55 (1.29-1.85)\*\*] and younger age [0.97 (0.96-0.98)\*\*] were associated with involuntary admissions. Further the interaction (rurality by indigenous status) was positively and significantly associated with involuntary admission [3.07 (1.29-7.28)\*] suggesting increased odds of involuntary admission for indigenous individuals with SUD living in rural areas. Conclusion: Consistent with previous findings involuntary psychiatric hospital admissions have continued to increase in recent years among SUD patients in ON Canada. Further studies are needed to examine the potential impact of the pandemic. Several social factors associated with involuntary admissions have been identified. The study findings support the need for preventive and intervention strategies to better serve vulnerable SUD patients such as addressing the social determinants of health and increasing access to culturally competent and safe addiction services.

Sunday May 05

### **Efficacy and safety of Ketamine versus electroconvulsive therapy: A systematic**

### **review and meta-analysis of randomized controlled trials**

*Mohammad Umer; Noor Atiq MD*

Title: Efficacy and safety of Ketamine versus electroconvulsive therapy: A systematic review and meta-analysis of randomized controlled trials Background and Objective: Major Depressive Disorder (MDD) is a debilitating mental health condition marked by persistent feelings of sadness poor concentration loss of interest and a range of physical and somatic symptoms as well as significant rates of treatment resistance. Both electroconvulsive therapy (ECT) and sub-anesthetic ketamine are effective treatments for resistant forms of MDD. This meta-analysis was conducted to compare the relative efficacy and safety of ketamine and ECT for the treatment of MDD by pooling results from published RCTs. Methodology: Randomized control trials that directly compared ECT and ketamine treatment groups were identified by systematic search of databases and clinical trial registries. We extracted data pertaining to primary outcomes including change in depression severity score from baseline to the post-treatment time point and study-defined symptomatic response and remission rates. We also extracted data pertaining to secondary outcomes including adverse events and common side effects. Risk of bias was evaluated using Cochrane Collaboration Risk of Bias tool version (ROB-2). Meta-analysis was carried out with Review Manager 5.4 using a random-effects model to account for heterogeneity. Results: The meta-analysis evaluated data from six RCTs four of which were conducted in an inpatient setting one in outpatient and one in an unspecified setting. These studies used unilateral ECT bilateral ECT or both and included participants that had depression with or without psychotic

symptoms. There was no significant difference in the overall change in depression severity between ketamine and ECT groups assessed immediately after the treatment period (SMD = 0.18 95% CI = -1.65 to 2.01). There were no statistically significant differences in response rates (RR = 0.94; 95% CI = 0.72 to 1.23) or remission rates (RR = 0.91; 95% CI = 0.47 to 1.78) between treatment groups. Subgroup analysis for response and remission rates favored ECT in patients having depression with psychotic features. Compared to ECT ketamine was associated with a lower risk of muscle pain or weakness (RR = 0.23 95% CI = 0.14 to 0.39) and a higher risk of dissociation or depersonalization (RR = 5.17 95% CI = 2.17 to 12.31). There were no significant differences between the two groups in the risk of experiencing 1 or more adverse events (RR = 0.93 95% CI = 0.36 to 2.44). Conclusion: The meta-analysis indicated that both ECT and ketamine have comparable efficacy for the treatment of MDD with tolerable safety profiles. In light of these findings further large-scale RCTs should be conducted to investigate the side effect profile of ECT compared to ketamine as well as the efficacy of these two interventions in the treatment of depression with and without psychotic features to establish a clearer picture.

Sunday May 05

### **Training the Next Generation of Psychiatrist Advocates**

*Matthew Kelly; Alena Balasanova M.D.; Sherry Nykiel M.D.*

Background: Physicians have a professional responsibility to advocate for social economic educational and political changes that ameliorate suffering and contribute to human well-being. Psychiatrists have the

additional burden of challenging stigma prejudice and discrimination against those living with psychiatric disorders including substance use disorders. With legislative bodies moving to restrict medical practices directly impacting psychiatric patients it is imperative to develop the next generation of psychiatrist advocates. Purpose: To raise awareness of the need to develop physician advocates in psychiatry and to describe one practical method of engaging trainees in advocacy training beginning as early as medical school. Methods: We describe an innovative strategy to engage medical students in mental health advocacy through a casual extra-curricular activity entitled "Dine and Debate" whereby students are provided a topic to research and are hosted at a faculty member's home for dinner where they debate the policy issues involved; faculty with expertise in mental health advocacy facilitate the activity. We describe the components of this activity including necessary supervision teaching methods time commitment and highlight student perceptions and feedback. Results: Through participating in this low-stakes extra-curricular activity students learned how to conceptualize and frame issues to create a clear message to advocate for or against policies impacting mental healthcare. They also learned how to find common ground with those who may not agree with them which is a valuable that will serve them into residency training and professional practice. Discussion: We discuss how to foster an inclusive environment to engage students to learn about policies around systems of care how to navigate controversial topics and practice oral communication skills in a low stakes setting. Conclusions: The health and illness of individuals is affected by federal and state laws and regulations structural and social determinants of health economics of

healthcare and individual health care system policies and procedures. A 21st century psychiatrist recognizes that understanding systems of care is necessary for comprehensive treatment of the patient. We must engage learners at all levels of training in developing and practicing key advocacy skills to shape these systems and to address the myriad factors that both directly and indirectly impact mental healthcare today.

Sunday May 05

### **Trend of blood pressure changes during ketamine infusion for the treatment of depression and its associated factors**

*Mina Ansari; Sina Nikayin*

Ketamine has been shown to be effective in the treatment of depressive symptoms and suicidal ideation in major depressive disorder and bipolar depression [1 2]. Given the high burden of mood disorders and the limited efficacy of monoaminergic antidepressants ketamine has gained special attention in recent years. However there are still some concerns about the safety and tolerability of ketamine [3]. Blood pressure changes are among the most common adverse events associated with ketamine [1]. In this study we aimed to examine blood pressure changes during ketamine infusion for the treatment of depression and explore the factors associated with these changes. We conducted a retrospective chart review of all adult patients with a depressive episode receiving ketamine infusion between January 2015 to December 2021 at IPS Yale Interventional Psychiatry Service (IPS). Blood pressure measurements were collected at baseline and every 10 minutes for a minimum of 70 minutes after the start of the infusion. We identified patients and encounters where a surge in blood pressure (BP) (defined as an

increase of more than 19mmHg in systolic blood pressure (SBP) or more than 9 mmHg in diastolic blood pressure (DBP) or severe hypertension (defined as SBP more than 179 and DBP more than 119) occurred. In addition we looked for factors associated with a surge in blood pressure among pre-specified variables. All statistical analyses and graphs were performed using R version 4.2.1. A total of 138 patients and 2342 infusions were included in this study. Fourteen subjects (10%) had a past medical history of hypertension. Patients were 64% female 89% White and 90% non-Hispanic with a mean age of 46 years (SD: 16.5). Mean BMI was 27.6 (SD: 5.7). Maximum elevations of blood pressure were observed during first infusion at 40 minutes after the start of the infusion for both SBP and DBP with an increase of 16.0 (SD: 11.2) and 11.0 mmHg (SD: 8.45) respectively. Severe hypertension was observed in 17 patients (12.5%) and 23 infusion sessions (0.98%) occurred more frequently in the first three infusions (43.4%) and in patients 50 years or older (82.6%). Age (OR adjusted: 1.04 (95%CI:1.02-1.05) p-value <0.001) was significantly associated with experiencing a surge in SBP and all patients with a past medical history of hypertension experienced at least one surge during their infusions. Based on the results of this study all patients receiving subanesthetic ketamine for the treatment of depression would benefit from BP monitoring during the infusion to ensure patient safety and optimize the benefits of ketamine infusion therapy. Older patients especially those with a history of hypertension and a surge in their blood pressure early in their treatment should be monitored more closely.

Sunday May 05

## **Words Matter: Use of Stigmatizing Language in Clinical Notes of Patients with Opioid Use Disorder**

*Prakash Adekkanattu PhD; Braja Patra Ph.D.; Marianne Sharko MD; Jyotishman Pathak PhD*

Background: Structural bias and stigma are highly prevalent in the US healthcare system. Patients from racial and ethnic minority backgrounds and those with obesity and substance use disorders (SUDs) have been impacted by conscious and unconscious biases among healthcare professionals. Stigma can be experienced and communicated in many ways including the language used by clinicians in encounter notes in the electronic health record (EHR). Objectives: This study aimed to investigate the use of stigmatizing language (SL) in clinical notes among patients with an opioid use disorder (OUD) diagnosis. Methods: The National Institute on Drug Abuse (NIDA) identifies a list of terms and phrases that assign negative labels stereotypes and judgement to individuals. Such language may discourage individuals from seeking help and it is recommended to use people-first language (PFL) when interacting with patients and documenting encounters. We developed appropriate lexicon for each of the SL terms in the NIDA list and implemented a simple rule-based natural language processing (NLP) algorithm to extract these terms from clinical notes. We processed 980194 notes for 2700 patients with an OUD diagnosis between 2010 and 2023 at a major academic medical center in New York City. We analyzed the incidence rates of SL in notes and demographic characteristics of patients with SL compared to those without SL found in their encounter notes. Results: The NLP system identified 2279 (84.4%) patients with one or more SL term(s) in their notes and 421(15.6%) patients with no SL. Terms such

as abuse" "opioid abuse" "addict" and "substance dependence" were the most frequent ones found in clinical notes. We found significant differences by age gender race and ethnicity across these cohorts. Patients with SL tended to be older and female. Patients in the age group 18-32 had a lower incidence of SL in their notes compared to other age groups. Patients who identify as Black had higher incidence of SL (18.2% in SL cohort vs. 15.0% in no SL cohort) compared to those who identify as White. Similarly patients who identify Hispanic had higher incidence of SL (22.5% in SL cohort vs. 16.9% in no SL cohort) compared to those who identify as non-Hispanic. We also found that notes authored by female providers use SL terms more frequently (50.0% in SL cohort vs. 42.4% in no SL cohort) than those authored by male providers. Additionally notes authored by mental health providers have a lower incidence of SL (11.6% in SL cohort vs. 25.6% in no SL cohort) compared to other specialties. In particular notes authored by social workers had higher incidence of SL (6.0% in SL cohort vs. 0.2% in no SL cohort) in their notes. Conclusions: These observations highlight the need for modeling best practices to decrease stigma and bias and further a need for provider education on what constitutes stigmatizing language in clinical documentation practices."

Sunday May 05

### **Poster Session 5**

Sunday May 05

### **A Case Series of Unexplained Resolution of Neuropsychiatric Symptoms following Administration of Dexmedetomidine**

*Mitchell McDaniel; Mohammad  
Lesanpezeshki; Priyansha Acharya M.B.B.S.;  
Madison Jupina; Garima Garg*

Background: Dexmedetomidine (DEX) is a well-known efficacious  $\alpha_2$ -adrenergic receptor agonist. Recently there has been a growing body of evidence to support DEX's utility for multiple psychiatric conditions due to its sedative anxiolytic analgesic and multi-organ protective effects by reducing inflammation activating antiapoptotic signaling pathways. We present 2 cases where DEX may have played a role in the resolution of severe neuropsychiatric syndromes where traditional interventions either failed or were contraindicated. Case 1: A 79yo female with h/o of HTN HLD RA BPD initially presented following MVC and excited catatonia not responding to IV BZD IV VPA. c/b pneumonia sepsis fall PE and two transfers to MICU for decreasing sensorium. During second transfer to MICU she received DEX for approximately 89 hours while intubated. She was palliatively extubated on hospital day 46 with plan for hospice care but awoke from sedation with unexpected and complete resolution of neuropsychiatric symptoms. She was discharged to SNF without known relapse in symptoms. Case 2: A 50yo AAM with PMH of HLD HIV DM II CKD4 HFrEF s/p ICD RCC s/p partial nephrectomy MDD and cannabis use presented with new onset VH and rapidly declining memory for 3 days concerning for Lewy Body Dementia (LBD). EEG showed generalized slowing MRI LP blood and CSF cultures blood counts and serum chemistries were inconclusive. Patient was transferred to MICU for management of severe agitation not responding to standard agents due to concerns for LBD and delirium; and placed on IV DEX drip for ~ 44 hours. Delirium agitation and cognitive decline resolved spontaneously and the patient was

discharged 2 days later with no definitive diagnostic explanation and referral for neuropsychiatric testing. Discussion: The 2 cases have multiple complex confounding variables regarding the unclear etiologies of their neuropsychiatric symptoms and subsequent resolution. DEX may have played a role in this recovery considering the growing evidence of anti-inflammatory cellular protective factors and CNS depression effects of DEX. If further investigation continues to support DEX's efficacy it may become a less invasive alternative to current interventional psychiatry modalities. There are also some clinical trials demonstrating efficacy of alternate formulations of DEX in the management of agitation. Conclusion: The neuropsychiatric benefits of DEX should continue to be investigated. It could become a valuable pharmacologic agent for multiple psychiatric conditions including delirium agitation insomnia and anxiety. The growing body of research is promising that this medication may become a first line agent due to its safety profile anti-inflammatory and cellular protective properties and anticipated efficacy but this is yet to be determined.

Sunday May 05

### **A Survey Study Investigating Impact of Racism During COVID-19 on the Mental Health of Asian Undergraduates in the U.S.**

*Kai Huang; Mara Xiong; Ying Sun; Huiqiong Deng*

Background Although Asian minorities have historically experienced discrimination and racism in the United States these issues were often overlooked due to being a "model minority." Asian college students have been previously identified as a population at high risk for depression and anxiety but have low rates of reaching out for mental health care.



During the COVID-19 pandemic younger adults and ethnic minorities have reported disproportionately worse mental health outcomes increased substance use and increased suicidal ideation. Asian college students additionally faced an unprecedented rise in anti-Asian racism and violence during the pandemic including first-hand experiences of racism and secondary trauma from learning about attacks and deaths in the Asian community. This study investigates the mental health issues and racial discrimination experienced by Asian college students during the COVID-19 pandemic. **Methods** A national online survey was distributed to Asian college students. The survey included questions of demographics and standardized measures of depression anxiety and perceived racism and ethnic discrimination i.e. the Patient Health Questionnaire-9 (PHQ-9) the General Anxiety Disorder-7 (GAD-7) and the Brief Perceived Ethnic Discrimination Questionnaire - Community Version (Brief PEDQ-CV) respectively. **Results** Among the 1059 participants 48.3% (n=511) participants reported moderate to severe level of depression 38.8% (n=411) of participants reported moderate to severe level of anxiety and 42.0% (n=445) reported having suicidal thoughts. Multivariate linear regression test showed that a greater PEDQ-CV score predicted greater PHQ-9 and GAD-7 scores. In addition 19.5% (n=206) participants reported that they started or increased substance use during the COVID-19 pandemic to cope with pandemic-related stress or emotions. **Conclusions** Increased anti-Asian racism during the COVID-19 pandemic is shown to be associated with exacerbated mental health status in Asian college students. Levels of depression anxiety substance use and suicidal thoughts are alarmingly high

underscoring the urgent necessity to enhance support for this marginalized population by implementing proactive advocacy educational initiatives and outreach programs.

Sunday May 05

### **Additive Effects of Major Depressive Disorder on Gait Impairment in Patients with Peripheral Neuropathy**

*Mana Sheykholtan; Holly Shan; Thomas Pacheco M.D.; Luke Llauardo; Jayson Atves*

**Background:** It has been established that major depressive disorder (MDD) can be recognized through motor symptoms such as through gait analysis. However no study to our knowledge has assessed the impact of MDD on walking-patterns in patients with peripheral neuropathy (PN). We aim to determine how MDD may influence gait in patients with PN. **Methods:** Adult participants with PN presenting to the Center for Wound Healing at Georgetown MedStar University Hospital who could ambulate independently were recruited and evaluated with wearable Opal sensors (APDM Portland Oregon). Patients completed a 120-second walk test at a self-selected pace and a 30-second Romberg (sway) test. Data provided by the Motility Lab software (Hamilton Thorne) which also provided normative values for gait in healthy adults was analyzed. MDD was documented from an official Diagnostic and Statistical Manual of Mental Disorders diagnosis noted in the patient chart. Data was analyzed with STATA VSN 7.0 with significance defined as  $p < 0.05$ . **Results:** Out of 85 patients with PN presenting to a single tertiary wound care center 13 had comorbid MDD while 72 served as a control. MDD and control groups both displayed gait impairments specifically in gait speed (0.81

m/s in control and 0.78 m/s in MDD group  $p=0.31$ ) double limb support (28.91% in control and 29.24% in MDD group  $p=0.81$ ) cadence (97.80 steps/min in control and 94.17 steps/min in MDD group  $p=0.14$ ) and RMS sway (0.40 m/s<sup>2</sup> in control and 0.64 m/s<sup>2</sup> in MDD group  $p = 0.07$ ) that were out of range from its normative values (1.04-1.64 m/s 12.4-24.6% 103-133 steps/min and 0.040-0.11 m/s<sup>2</sup> respectively).

Conclusion: Although there were no significant differences in gait parameters in our patient populations patients with comorbid PN and MDD displayed walking patterns out of the normative gait values. These values may highlight the somatic manifestations of MDD in patients with PN. We encourage clinicians to continue screening patients for psychiatric illnesses. The implications of psychiatric illnesses are important in the holistic care of patients.

Sunday May 05

### **Atypical presentation of Catatonia: A Case Report and a Literature Review of on Autobiographical Memory Loss without Motor Symptoms**

*Sheena Glover D.O.; Romi Shah; Sheena Glover D.O.*

Introduction: Catatonia is a neuropsychiatric syndrome characterized by motor abnormalities including immobility posturing and mutism. However there have been reports of catatonic patients presenting with cognitive impairments specifically autobiographical memory loss without prominent motor symptoms. This research abstract aims to present a case report of a patient with anxiety disorder and major depressive disorder who developed catatonia with autobiographical memory loss and to review the existing literature on this unique

presentation. Case Report: A 27-year-old male with a history of anxiety disorder and major depressive disorder presented to the emergency department with difficulty recalling his name and his job description. Initial investigations including laboratory tests and neuroimaging yielded negative results. However within the next 10 days the patient's condition deteriorated and he developed catatonia characterized by immobility negativism and echolalia. He was subsequently admitted to the psychiatric ward for further evaluation and management. Treatment with benzodiazepines resulted in a significant improvement in his catatonic symptoms including the restoration of autobiographical memory. Methods: A comprehensive review of the existing literature was conducted utilizing electronic databases such as PubMed PsycINFO and Google Scholar. Results: The literature review highlights the limited understanding of autobiographical memory loss without prominent motor symptoms in catatonia. Several case reports have described similar presentations with patients experiencing profound deficits in recalling personal memories and autobiographical information. These memory impairments appear to be dissociated from the motor symptoms typically associated with catatonia. The underlying neurobiological mechanisms and the specific brain regions involved in this phenomenon remain unclear. Further research is needed to elucidate the pathophysiology and develop targeted interventions for this unique manifestation of catatonia. Conclusion: This case report underscores the importance of considering catatonia as a potential diagnosis in patients presenting with confusion and memory impairments even in the absence of prominent motor symptoms. The successful treatment of the patient's catatonic

symptoms with benzodiazepines highlights the potential therapeutic role of these medications in managing catatonia with autobiographical memory loss. Further research is warranted to better understand the underlying mechanisms and develop evidence-based interventions for this distinct presentation of catatonia.

Sunday May 05

### **Change in Neuropsychological Test Performance Seen in a Longitudinal Study of Patients with Post-Acute Sequelae of COVID-19: A 6-Month Follow-up Study**

*Sean Lynch M.D.; Stephen Ferrando M.D.*

Background: Post-acute sequelae of COVID-19 (PASC) may include physical psychiatric and neurocognitive symptoms. Few studies of cognitive symptoms have been longitudinal with many following participants briefly after infection relying on subjective complaints screening instruments or computerized testing. This group previously reported diminished neuropsychological (NP) test performance in over half of 60 individuals tested in-person 7 months post-COVID-19 particularly those seeking care for cognitive complaints. The current study describes the baseline and 6-month follow-up results of an expanded cohort of 75 participants. Methods: Participants underwent baseline NP psychiatric and medical assessments approximately 7 months after acute COVID-19 infection. Sixty-three (84%) returned approximately 6 months later for repeat evaluation. Results: At baseline 29 (38.7%) met criteria for low NP performance and 16 (21.3%) met criteria for extremely low NP performance. At 6-month follow-up there was significant overall improvement in many NP domains; however persistent deficits were noted in immediate memory language

attention and psychomotor processing speed. At baseline over half experienced clinically significant fatigue and depression and nearly 1/3 had clinically significant anxiety and PTSD. Fatigue diminished at 6 months but all other neuropsychiatric symptoms were unchanged.

Discussion/Conclusion: A substantial proportion of individuals recovered from acute COVID-19 infection have persistent neuropsychiatric symptoms over 1 year after infection. While the overall sample in this study showed some improvement in NP test performance and fatigue relatively few made significant clinical improvement indicating the need for serial neuropsychiatric assessment and treatment supports. Longitudinal follow-up of this cohort is in progress.

Sunday May 05

### **Comparison of Three Delirium Assessment Tools: the CAM-ICU versus the ICDSC versus the Stanford Proxy Test for Delirium (S-PTD). Which one is best?**

*Derek Pipolo M.D.; Yelizaveta Sher M.D.; Vasudha Sarvagya; Benjamin Hoover MD; Jose Maldonado M.D.*

Background: Delirium is the most common psychiatric disorder in general settings with an incidence of up to 87% in intensive care units. However this condition remains undiagnosed in 72% of patients. Several diagnostic tools have been developed to assist non-psychiatric clinicians with the identification of delirium. While many instruments report high sensitivities in controlled research environments these seem to decrease in real-life conditions. Given the nature of delirium many patients who are uncooperative with the examination are considered “unable to be assess” and

often excluded from the final analysis. We aim to compare the most common delirium screening tools utilized at our institution versus the current gold standard: a blinded neuropsychiatric assessment based on DSM-5 criteria. Methods: A triple-blinded 6-week study assessed the efficacy of three delirium screening tools CAM-ICU ICDSC and S-PTD against a neuropsychiatric assessment based on DSM-5 criteria. All patients had been admitted to the adult cardiothoracic-ICU at Stanford University Medical Center. Patient data was pooled from an ongoing clinical trial intended to determine the accuracy of an EEG-based diagnosis for delirium. The DSM-5 based neuropsychiatric exam was considered the gold standard for delirium diagnosis in our study and performed by a critical-care psychiatrist; the CAM-ICU and ICDSC were performed by a general physician trained on the use of these instruments and the characteristics of delirium and the S-PTD assessments were performed by the patient's ICU nursing staff at the end of their shift. Descriptive statistics for each screening tool were calculated with 2 x 2 tables using the neuropsychiatric assessment as the reference group. Statistical analysis was performed using IBM® SPSS® Statistics version 29.0.1. Results: A total of 105 clinical assessments utilizing the various delirium screening tools were conducted in 27 patients. Of these 51 (48.57%) yielded a positive diagnosis of delirium as per the DSM-5-based assessment; 14 CAM-ICU and 16 ICDSC exams were unable to assess due to patient uncooperativeness. The CAM-ICU displayed a sensitivity of 43.2% specificity of 100% PPV of 100% NPV of 72% and accuracy of 76.92%. The ICDSC showed a sensitivity of 73% specificity of 100% PPV of 100% NPV of 83.9% and accuracy of 88.76%. The S-PTD demonstrated a sensitivity of 94% specificity of 82% PPV of 83.9% NPV of 93.2% and

accuracy of 88%. Conclusion: Delirium screening tools often suffer from low sensitivity due to patients' lack of cooperation hampering early detection. The CAM-ICU and ICDSC are affected by this issue and may deceitfully inflate their sensitivity. Considering this the S-PTD seems more accurate than traditional tools. It is the only validated tool against the DSM-5 criteria and demonstrated the highest sensitivity in our sample accommodating patients unable to participate in traditional clinical assessments.

Sunday May 05

### **Delays in the death notification of a loved one to a patient involved in the same traumatic incident: A case report**

*Diana Li; Stephen Marcoux*

Background: The manner in which the sudden and unexpected death of a loved one is communicated to survivors is often an experience that stays with them for the rest of their lives [1]. Poor-quality notifications often due to inadequate death notification training can contribute to grief and psychological distress and increase the risk of post-traumatic avoidance behavior in the survivor [12]. While there is growing literature and training programs on the notification of family members in the setting of a patient's death [3] there is minimal literature on the notification of a hospitalized patient of the death of a loved one in the same traumatic incident. We report a case in which delays in death notification to a survivor of a traumatic event prolonged psychiatric symptoms which highlights the need for better education on death notification to patients in hospital settings. Case Presentation: A 46-year-old undomiciled male with a past psychiatric history of opioid use disorder was admitted to

the University of Chicago Medical Center Surgical Intensive Care Unit after sustaining multiple gunshot wounds to the face. Psychiatry was consulted for concerns of depressed mood. The patient reported living in an abandoned house with his longtime partner when an intruder entered the home and shot them. Uncertainty of his partner's wellbeing led to recurrent thoughts of her possible death. Evaluation of the patient revealed insomnia feelings of helplessness decreased energy flashbacks nightmares and hypervigilance. The patient was diagnosed with unspecified trauma and stressor-related disorder and prescribed Trazodone for insomnia and Doxazosin for nightmares. Shortly after psychiatric consultation it was confirmed that the patient's partner was pronounced dead by the county coroner through an online news article. Death notification was then deferred to the admitting trauma service however the information was withheld for two weeks despite discussions regarding benefit of notification due to concerns related to legality and instigation of suicidal thinking. Clinically the patient remained in distress over the uncertainty of his partner's death. Ultimately homicide police detectives communicated the death notification to the patient in the midst of an ongoing investigation. Unfortunately the nature of this notification and the delay appeared to exacerbate the patient's existing psychiatric symptoms. Conclusion: Death notifications remain a challenging practice for physicians and can be even more difficult when notifying the survivor of a traumatic event who may be experiencing psychiatric symptoms. To assist physicians in navigating death notification to survivors formalized education on compassionate methods of notification along with guidance on ethical and legal case

components is warranted to ensure patients receive the most appropriate care.

Sunday May 05

### **Eating Well and Feeling Well: Examining Short and Long-Term Dietary Choices Microbiome Composition and Major Depressive Disorder**

*Jamie Parkerson M.D.*

Background: The microbiome-gut-brain axis (MGBA) has been a subject of great interest as the nuanced connections between the brain and the GI tract as well as the interplay between gut and mental health has been explored. It has been established in recent years that dietary choices impact the microbiome with certain foods such as fish whole grains and fruits and vegetables encouraging certain genera of microbes to thrive while diets high in refined sugars can lead to dysbiosis. In this review the relationship between the composition of the microbiome and major depressive disorder (MDD) is explored as well as the reactivity of the microbiome to dietary changes. Prior evidence demonstrates that certain populations of microbes are observed more frequently in patients with depression. This review focuses on the time between dietary changes and microbiome recomposition and how patients may be encouraged to utilize dietary modifications as an adjunct to pharmacotherapy and psychotherapy for treatment of depression. Methods: A PubMed search was conducted of recent literature on the subject utilizing search terms "depression" "major depressive disorder" "microbiome" "diet" and "enterotype" with results then assessed for recent publications with full text articles available. Articles were assessed for relevance to the subject of the MGBA and depression as well as quantitative



information regarding the timing of dietary interventions and alterations in gut flora populations. Results: Varied microbial populations have been associated with MDD including reduced alpha diversity of the overall microbiome compared to control subjects. Recent research has revealed that within 24 hours of food consumption the flora of the microbiome shift in response to the micro and macro nutrients of the enteral environment. Although such changes occur rapidly in response to diet the underlying enterotype remains more stable and sustained dietary changes must be explored further to determine the long-term implications of diet on microbiome composition and mood disorders. Though long-term remodeling of the microbiome is a gradual and not fully understood process even short-term changes may potentiate the communication between the gut and the brain. Further exploration is warranted to identify what role that dietary interventions may have in the management of MDD a condition for which most pharmacologic interventions require significant time to yield clinical effect. Conclusion: Dietary changes could be a low-risk non-pharmacologic intervention that patients can pursue in conjunction with other methods of treatment for MDD. Microbiome changes occur rapidly after foods are consumed though more data is needed to determine the durability of these changes as well as to explore further the bidirectional relationships of the MGBA.

Sunday May 05

### **Exploring the Overlap: A Case Series of Pediatric Acute-Onset Neuropsychiatric Syndrome and Autism Spectrum Disorder**

*Jeff Jin M.D.; Juliette Madan; Nolan Neu; Sarah Slabaugh MD; Steven Schlozman MD*

Introduction: Pediatric acute-onset neuropsychiatric syndrome (PANS) is characterized by severe and abrupt onset obsessive-compulsive or food avoidant/restrictive symptoms with at least two additional concurrent neuropsychiatric symptoms (e.g. mood dysregulation sensorimotor difficulties somatic signs) that are not better explained by a known neurologic or medical disorder. Autism spectrum disorder (ASD) is characterized by persistent deficits in social communication and the presence of restricted repetitive behaviors such as highly fixated interests ritualized behavior and stereotyped behaviors. PANS and ASD share several overlapping characteristics that may be difficult to distinguish. We present a case series of PANS presenting with a concurrent ASD diagnosis to facilitate increased recognition of the frequent co-morbidity of these conditions. Case Presentation: We present two adolescent patients with a history of ASD with one-day onset of obsessive-compulsive symptoms emotional dysregulation irritability aggression and anxiety in the context of recent COVID-19 infection. One patient presented with avoidant/restrictive food intake homicidal ideation and command auditory hallucinations while the other had somatic concerns of urinary frequency. Extensive metabolic infectious and autoimmune laboratory workup were unremarkable aside from elevated inflammatory markers such as c-reactive protein (CRP) d-dimer and antinuclear antibody (ANA). Empiric treatment with Azithromycin non-steroidal anti-inflammatory drugs (NSAIDs) and adjunctive psychotropic medications (sertraline clomipramine clonidine and risperidone) resulted in improvements in acute-onset neuropsychiatric symptoms. Although initially suspected as an

exacerbation of restrictive inflexible and hyper-reactive symptoms of ASD the acuity of symptom onset presence of inflammatory lab changes response to empiric PANS-treatment and lack of better explanation by an alternative neurologic or medical disorder strongly indicated a diagnosis of PANS. Discussion: These cases of PANS illustrate the potential for overlap with neuropsychiatric manifestations of ASD. Recent immunogenetic evaluations have identified genetic conditions notable for both ASD and immune-mediated neuropsychiatric conditions such as PANS. To date one published case shows similar difficulties with misdiagnosis. Diagnostic distinction of PANS from ASD is supported through abrupt-onset obsessive-compulsive disorder (OCD) or avoidant/restrictive food intake disorder (ARFID) within 48 hours an associated autoimmune or inflammatory etiology positive inflammatory serology and improvement with empiric antibiotic and anti-inflammatory treatment. In the presence of PANS and ASD symptom overlap consider further metabolic infectious and autoimmune workup to supplement the clinical history. Identification of PANS is important given the differing evaluation and treatments strategies for ASD OCD and ARFID.

Sunday May 05

### **Guanfacine for Management of Delirium: A Retrospective Review**

*Bernard Sarmiento M.B.A.; Shixie Jiang*

Background: Delirium is a clinical syndrome of acute brain failure that represents a change from an individual's baseline cognitive functioning characterized by alterations in attention awareness and other aspects of cognition that fluctuate in severity over time. The clinical presentation is variable

and the symptomatic management of delirium's behavioral manifestations such as agitation remains difficult. Conventional antipsychotics address the hypothesized increased level of dopamine found in delirium models. However excess glutamate or norepinephrine may be a contributory factor in hyperactive/mixed-type delirium. The alpha-2 agonists dexmedetomidine and clonidine are efficacious due to reductions in these two neurotransmitters but their potential cardiovascular adverse effects limit their utilization. Guanfacine is an oral alpha-2 agonist with a lower potential for such adverse outcomes due to higher alpha-2 receptor selectivity; however its use in delirium has not been studied outside of a case series. Methods A retrospective descriptive analysis of guanfacine for managing hyperactive or mixed delirium at a single tertiary academic hospital was conducted utilizing data collected from an electronic medical record database. The primary outcome was the time until a 25% reduction in acute sedative (rescue sedative) administration. Secondary outcomes included renewed participation in physical therapy or occupational therapy (PT/OT) within four days 25% reduction in opioid administration and incidence of cardiovascular adverse effects after initiation of guanfacine. Results One hundred forty-nine patients were identified as having received guanfacine for managing delirium during the study period. All experienced a quantitative reduction in acute sedative use after the initiation of guanfacine. In 93 patients receiving PT/OT who were unable to participate due to behavioral agitation 74% had a documented renewal of PT/OT within four days. Of 112 patients on opioids 70% experienced a 25% reduction in opioid administration within four days. No patients experienced consecutive episodes of

hypotension that required a change in their clinical care. Two patients experienced a single episode of consecutive bradycardia that led to the discontinuation of guanfacine. **Conclusions** Based on this retrospective study guanfacine is a well-tolerated medication for the management of delirium. Even in critically ill patients cardiovascular adverse events were rare with guanfacine. Patients treated with guanfacine experienced decreased rescue sedative use for behavioral agitation. Additionally patients treated with guanfacine received less opioids and more patients were able to participate in PT/OT sooner. Limitations of the study included its descriptive retrospective analysis and lack of a control group. Future studies with prospective randomized placebo-controlled designs are needed to evaluate this promising intervention for delirium further.

Sunday May 05

### **Incident Pain Relief with Esketamine for Depression: Sustained Benefit in Fibromyalgia and Migraine**

*Darian Vernon MD; Anjalie Gulati; Darren Freeman DO; Christopher Fichtner M.D.; Stephen Stahl*

Intranasal esketamine has been approved for use in treatment-resistant depression (TRD) since 2019. Racemic ketamine approved for anesthetic and analgesic use for over 50 years has been used intravenously (IV) off-label for the treatment of major depressive disorder (MDD) for two decades. Study of intranasal esketamine in pain syndromes has been limited but given the co-occurrence of pain and depression in many patients reports of pain relief beyond immediate same-day anesthetic effects are of clinical interest. We previously reported on a patient whose chronic migraine headaches remitted in the

course of intranasal esketamine for TRD without recurrence through six months of treatment. We have seen transient pain relief limited to the day of dosing in several esketamine-treated TRD patients with various pain syndromes including diabetic peripheral neuropathy lower back pain and sciatica. However in this poster we detail a case in which TRD treatment with intranasal esketamine 84 mg weekly was associated with MDD remission as well as sustained improvement in fibromyalgia pain through ten months of ongoing treatment and follow-up. The patient is a 40-year-old female with a history of MDD anxiety chronic fibromyalgia pain irritable bowel syndrome (IBS) and dysesthesia. She presented with depressed mood poor concentration insomnia low energy weight gain and exacerbation of pain. Multiple trials of oral antidepressants and augmentation agents had been helpful but inadequate. Her antidepressant regimen at the start of esketamine treatment was bupropion extended-release (XL) 450 mg and venlafaxine extended-release (XR) 225 mg daily. Following an initial 56 mg dose on the first day to establish tolerability esketamine 84 mg intranasal was given twice weekly for 4 weeks and then once weekly for 4 weeks. Depressive symptoms improved within days of starting esketamine heralded by much better sleep. With transition to biweekly dosing however depressive symptoms recurred prompting a return to weekly treatment. Concurrent with the antidepressant response the patient reported consistent and lasting relief from fibromyalgia pain of 4-5 points on a 10 point scale. She rated her baseline pain as 7-8 out of 10 daily with exacerbations to 9 or 10. With esketamine she rated her pain as 2-3 out of 10 most days with breakthrough as high as 4 out of 10 on day 6 or 7 of the one-week inter-dose interval. This response has held up over

a 10-month course of treatment to date. On two occasions when schedules required a longer interval of 11 and then 9 days between doses the patient rated her breakthrough pain as 6-7 out of 10 in the days beyond the usual one-week interval. Our observations in this case and in our migraine patient noted above have led us to ask whether certain comorbid pain syndromes might favor earlier use of esketamine in some TRD patients.

Sunday May 05

### **Mania Mystery: A Case Report of Secondary Mania in Multiple Myeloma and Neurocognitive Disorder**

*William Burton; Diana Robinson M.D.*

Psychiatric complications of multiple myeloma (MM) were first specifically addressed in the late 1900s in a series of case reports of delirium (1). Reports of psychiatric symptoms secondary to MM have since described mania and psychosis as well (2-3) but remain overall few in number. Secondary psychosis and manic symptoms have similarly been reported in the setting of neurocognitive disorders (4-5). There are no such reports involving patients with both MM and neurocognitive disorder and little is known regarding optimal diagnosis and management in such cases. Mr. S is a 68-

year-old male with a medical history of multiple myeloma chronic kidney disease stage 3 hypertension type 2 diabetes hyperlipidemia thoracic aortic aneurysm left ICA aneurysm and neurocognitive disorder unspecified who presented to an academic hospital under psychiatric involuntary hold with psychotic and manic features after attempting to flee the scene of a motor vehicle collision. In the emergency department he received haloperidol diphenhydramine and lorazepam due to

severe agitation and was medically admitted for management of hypokalemia. Initial psychiatric evaluation was notable for grandiose delusions decreased need for sleep and impaired cognition without waxing and waning only oriented to city state and country. The patient was started on trazodone (25 mg nightly) for sleep which was subsequently increased (to 50 mg nightly). He attempted to elope on hospital day 2 but was redirectable. Due to increasingly labile mood and continued delusions divalproex (1000 mg/day) was initiated on hospital day 3 and later augmented with risperidone (2 mg nightly) on hospital day 4 with modest improvement in the patient's mood and increasingly organized behavior. Additionally his delusional and grandiose thought content became less apparent though it did easily resurface with prompting. The patient received haloperidol (5 mg once) during a second attempt to elope on hospital day 6 risperidone was increased (to 3 mg nightly) and he was then discharged home with his girlfriend on hospital day 7 in stable medical condition. This is a patient with no history of psychiatric illness prior to late adulthood presenting with manic and psychotic symptoms in the setting of newly diagnosed neurocognitive disorder and multiple myeloma. This is one of few reports of secondary mania or psychosis in a multiple myeloma patient and perhaps the first of such in the setting of both multiple myeloma and a neurocognitive disorder together. The scarce documentation of such cases and resultant lack of diagnostic clarity and management strategies suggest a need for further exploration of secondary psychiatric symptomology in patients with multiple myeloma neurocognitive disorder or both.

Sunday May 05

## **Missing the forest for the trees: Acute onset psychosis with MRI abnormalities**

*Ralph Albert M.D.; Aashraya Ramu M.D.;M.B.B.S.*

Background: Acute-onset psychosis especially in patients of atypical age leads to investigation of alternate etiologies for neuropsychiatric manifestations. Imaging studies often warrant further diagnostic workup. Case Review: This distinction came to the fore while working with a 39 year old woman with no past psychiatric history who presented to the emergency room ED for command auditory hallucinations encouraging her to push her 6 year old child off of a bridge. The broad differential diagnosis of this case required an in depth literature review. We used the search terms “neuropsychiatric manifestations of CADASIL toxic leukoencephalopathy and arsenic exposure”. In this patient CT scan of the head revealed extensive white matter hypoattenuation. Neurological assessment revealed mild weakness of left leg. MOCA scored 21/30 with deficits in visuospatial/executive functioning. Blood samples and CSF analysis were normal including autoimmune panels and testing for anti-NMDA encephalitis. MRI of the brain revealed symmetric white matter destruction concerning for a vasculitic process. Discussion with the radiology team led to consideration of cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL). CADASIL is an autosomal dominant vasculopathy caused by mutation in the NOTCH2 gene that presents with stroke cognitive deficits and behavioral disturbances or psychosis. It often presents with symmetric T2 hyperintense lesions. Angiography did not reveal evidence of vasculitis and NOTCH3 testing is pending. A

heavy metal screen revealed elevated arsenic levels with the patient disclosing significant nicotine use via homemade cigarettes. These revelations were suggestive of toxic leukoencephalopathy. Toxic leukoencephalopathy is white matter destruction precipitated by neurotoxic medications substances or other sources of insults and presents with similar MRI findings. Discussion: Arsenic exposure particularly the chronic type can lead to poisoning with manifestations presenting in multiple organ systems. However acute psychosis is not a commonly described manifestation of arsenic exposure. In this case the patient developed acute psychosis with hallucinations disorganized thinking and homicidal ideation following chronic occupational arsenic exposure. MRI was suggestive of toxic leukoencephalopathy. The patient was treated with an atypical antipsychotic and responded well with significant improvement in both the acute psychosis and mood symptoms. Conclusion: This investigation highlights the importance of an interdisciplinary approach to investigating psychotic symptoms.

Sunday May 05

## **Olfactory Reference Syndrome**

*Marshall Johnson D.O.;M.Sc.*

Olfactory Reference Syndrome (ORS) is an understudied neuropsychiatric illness previously thought to be a culture-bound syndrome within Japan. ORS is the newest diagnosis into the DSM-V-TR added in 2022 and epidemiological data is not currently available due to its scarcity. Further epidemiological research is needed to provide insight into how often ORS occurs and where this illness is occurring. This study summarizes a single patient’s hospital course



occurring in Jacksonville Florida and provides insight into a potential clinical treatment course for the illness. A 46 year old Caucasian female presented with suicidal ideations after perceiving herself as having severe body odor. The patient noted a foul body odor was consistently omitting from her body for over ten years however over the last couple months the odor became significantly worse. The patient perceived this body odor to omit from multiple sites on her body including her armpits her sweat and from her mouth. This odor was perceived by herself and she believed other people around her would smell this odor however there was no factual evidence of people around her smelling any type of foul odor. The patient stated she showers as much as 7 times a day uses deodorant over 20 times a day with no relief and brushes her teeth around 14 times a day. While bathing a day before admission the patient had the urge to drown herself in her bathtub due to increasing anxiety and depression related to the ORS. The medication plan for this patient began in the ED with lorazepam 2mg PO ketorolac 100mg PO and acetaminophen 600mg PO. In the ED the patient was also started on Fluvoxamine 50mg PO to target OCD and Aripiprazole 5mg Daily PO. Upon admission the patient was started on Sodium Valproate 250mg BID PO as a mood stabilizer to target her OCD and related depression. The patient was given a low dose Clonazepam 0.5mg BID PO for her anxiety and Benadryl 25mg PO at bedtime for sleep. The Aripiprazole 5mg PO QD was continued and Fluvoxamine discontinued until bipolar disorder could be ruled out given her random periods of energy bursts and impulsive behaviors. Over the course of her hospital stay the patient gradually decreased the occurrence of showering brushing her teeth and applying deodorant. Upon discharge the patient was maintaining more

of a normal hygiene routine by showering brushing her teeth and applying deodorant once daily. With the inclusion of ORS in the DSM-V-TR physicians should be aware of an ORS diagnosis and cases of ORS should be documented for further research. Physicians should consider ORS in patients presenting for genetic testing of TMAU and patients who compulsively or excessively shower.

Sunday May 05

### **Prevalence of Perinatal Paternal Depression in Low and Middle Income Countries: A Systematic Review**

*Isabelle Duerr M.D.; John Keku M.D.*

Introduction: There is currently no review of the prevalence of paternal perinatal depression associated risk factors and impact on infants restricted only to low and middle-income countries (LMICs). This review aims to examine these factors by focusing on paternal depression in LMICs. Methods: Literature search was conducted in five different databases (PubMed CINAHL PsychINFO Web of Science and Scopus). Databases were searched from their start date to April 2023. All articles reviewed were in English. Analysis of prevalence was conducted in Excel. Results: Twenty nine studies met inclusion criteria with an overall sample size of 13308 fathers and were included in this review. Overall pooled prevalence of perinatal depression (onset in pregnancy or postpartum) from all twenty nine studies was 10.4% [95% CI 8.9-11.9%]. Pooled prevalence of antenatal depression from eight studies was 9.6% [95% CI 6.7-12.5%]. Pooled prevalence of postnatal depression from twenty two studies was 11.2% [95% CI 9.3-13.1%]. Major risk factors associated with antenatal depression were low household income unwanted pregnancy

having a daughter when the father preferred having a son unemployment COVID-19 pandemic fear of childbirth and history of antenatal depression. Major risk factors associated with postnatal depression were low household income unwanted pregnancy having a daughter when the father preferred having a son unemployment partner with maternal perinatal depression lack of social support perceived stress low education emotional or physical abuse alcohol use paternal marital satisfaction parental sense of confidence sleep disturbance partner's child birth via Cesarean section still-birth older fathers younger fathers and first time fathers. Conclusion: LMICs have similar prevalence and risk factors to high-income countries. Preference for a son by fathers exists as a relatively unique risk factor of paternal depression in Asian middle-income countries. As a whole paternal perinatal depression in low and middle income is grossly underrepresented in the literature. There is a great need for further research in this area conducted in LMICs particularly in Africa.

Sunday May 05

### **Psychiatric Consultations in the Initial Weeks of the COVID-19 Pandemic: A Comparison of COVID-Positive and COVID-Negative Consultations**

*Emily Groenendaal M.D.; Sivan Shahar*

Background: During the initial weeks of the COVID-19 pandemic the overall number of psychiatric consultations decreased; however the consultations that were placed appeared to be heavily related to either COVID-19 infection or a stressor secondary to the pandemic. New onset neuropsychiatric symptoms have been seen and described in prior reports among patients with acute

COVID-19 infection. This study aimed to examine the sociodemographic and clinical characteristics of psychiatric consultations in the early portion of the pandemic and compare patients who were COVID-19-positive with those who were negative. Methods: This IRB-approved retrospective chart review involved all psychiatric consultations for COVID-19-positive patients admitted to a medical floor at an academic medical center from March 1 2020 until May 31 2020. Sociodemographic medical (including diagnoses and laboratory values) and psychiatric information was collected from all consultations and patients who were COVID-19 positive were matched with a COVID-negative comparison group by age (+/- 3 years) and gender. Statistical analyses to compare these groups were performed. Results: There were 80 consultations for COVID-positive patients identified in the given time period. These were matched with a comparison group of 80 patients who had been listed as COVID-negative; however on review of medical records only 64 were truly negative so 16 were excluded. Significant differences existed between groups in terms of reason for psychiatric consultation ( $p=0.04$ ) and billing diagnosis ( $p<0.01$ ) with COVID-positive patients appearing to have a greater likelihood of presenting with psychosis or delirium and less likelihood for mood anxiety or substance use. D-dimer levels were higher in COVID-positive patients and patients with COVID had a higher mortality rate. COVID-positive patients were more likely to receive a "second-generation antipsychotic". Differences between groups in terms of specific psychiatric symptoms were explored. No other sociodemographic or medical differences were found between groups. Discussion/Conclusion: Patients with COVID-19 infection may be at an increased rate for delirium and for symptoms

of psychosis. Multiple studies have speculated on mechanisms for such symptoms though findings are inconclusive. This study suggests that simply increased stress during the pandemic is not the driving factor for these symptoms. Patients admitted to medical floors with COVID-19 infection should be screened for delirium and for new-onset neuropsychiatric symptoms.

Sunday May 05

### **Psychotherapeutic considerations for Alstrom Syndrome with neuropsychiatric manifestations: a case report**

*Thanita Pilunthanakul Psychiatry Resident;  
Arvind Rajagopalan; Lay Ling Tan*

Alstrom Syndrome (AS) is a rare autosomal recessive genetic disorder with progressive multi-organ involvement and a life expectancy of around 50 years old. There is currently no available cure or treatment. Psychiatric manifestations of this life-limiting disorder include sleep disturbances major depressive disorder obsessive-compulsive disorder psychotic behavior attention deficit-hyperactivity disorder (ADHD) and/or traits suggestive of autism spectrum disorder (ASD). There is currently limited literature on the management of psychiatric manifestations in AS. We present a case of an increasingly vision-impaired 20-year-old female with AS. She was referred to the psychiatry consultation-liaison team for self-harming thoughts and multiple sensory issues. Overstimulation from specific sensations and traumatic memories has resulted in recurrent difficulties leaving the house and regular emotional meltdowns 2-3 times a week for which she copes by banging cupboards and occasional self-harm. She was found to have neuropsychiatric sequelae to AS with behavioral and psychological

disturbances: anxiety and depressive symptoms irritability sensory hypersensitivity and possible ASD features. In the management of this patient we identified significant psychodynamic issues between the patient and her mother the transference-countertransference matrix between the patient and male and female psychiatrists and the nursing and primary medical team. These issues posed significant challenges in treating the patient. Specifically psychodynamic therapy would have been challenging due to the possible social communication deficits lack of understanding of self and repeated meltdowns triggered by hypersensitivity issues. Other psychotherapeutic needs include addressing core emotional conflicts relational issues possible grief over the progressive loss of function emotional regulation and building distress tolerance for sensory hypersensitivity. Acceptance and Commitment Therapy and Family Therapy as alternatives to psychodynamic psychotherapy could be considered in the context of a patient with a life-limiting disease such as AS with neuropsychiatric manifestations.

Sunday May 05

### **Relationship between negative cognitive styles and diet quality in patients diagnosed with depression**

*Diana Aguilar MSc; Sarai Gonzalez*

Background: Major depressive disorder (MDD) is associated with weight gain difficulty to lose weight and poor diet quality. However the mediators for this association are widely unknown. Negative cognitive styles associated with depression could impair an individual's capacity to select healthy foods. We aim to study the association between

negative cognitive styles and diet quality in patients with MDD compared to mentally healthy controls. Methods: We performed a cross-sectional comparative descriptive study at the Center for Affective Health of the Department of Psychiatry at the University Hospital Dr. José Eleuterio González" in Monterrey Mexico. Subjects were divided into cases and controls matched by age and sex. MDD was confirmed using the Mini International Neuropsychiatric Structured Interview. Furthermore the control group was sex and age-matched and taken from the general population. Sociodemographic clinical and dietary variables were evaluated in both groups. Negative cognitive styles were measured using Cognitive Style Questionnaire-Short Form (CSQ-SF) depressive symptoms using the Beck's depression inventory (BDI) dysfunctional attitudes using the Dysfunctional Attitudes Scale (DAS-SF1 and DAS-SF2) and dietary variables using the Nutricloud software that allows obtaining a diet quality index and the subindices of each subject. Categorical data are summarized in frequencies and percentages and numerical data in mean and standard deviation. Student's T-tests were performed to compare means in quantitative variables; a value of  $<0.05$  was considered statistically significant SPSS version 21 (IBM Armonk NY USA) for Windows 7 was used. Results: Seventy-six subjects were included the majority female (76.32%) with a mean age of 30.34 ( $\pm 10.6$ ) with no statistically significant differences between groups. No statistical significance was observed in the quality of diet between cases and controls however the distribution of food was significantly different there were differences between consumption of carbohydrates ( $44.774 \pm 9.401$   $39.414 \pm 6.939$   $p = .006$   $OR = 1.5839$ .137) and proteins ( $15.521 \pm 3.930$   $18.360 \pm 4.579$   $p = .005$   $OR = -4.789$ -.888).

Additionally MDD showed more dysfunctional attitudes ( $41.92 \pm 10.68$   $29.61 \pm 6.508$   $p < .001$   $OR = 8.2516$ .34) and more negative cognitive styles ( $204.05 \pm 27.928$   $167.71 \pm 28.594$   $p < .001$   $OR = 23.4249$ .26). Conclusion: Our findings showed that patients with MDD present dysfunctional attitudes negative cognitive styles and an increased consumption of carbohydrates. These in turn could be mediators of the association between MDD and weight gain. These results need to be further investigated for instance to integrate psychiatric nutrition as part of the therapeutic approach."

Sunday May 05

### **Stimulating Response: Methylphenidate use in Patients with Depression**

*Christina Spoleti D.O.; Christine Marchionni MD; Gabriel Herbst*

Background: Major depressive disorder (MDD) in the older adult population is refractory to many first-line treatments for depression and often requires longer treatment duration and additional therapies. Augmentation of selective serotonin receptor inhibitors (SSRIs) with stimulants has demonstrated efficacy in treating apathy in medically ill cognitively impaired and depressed patients. As such stimulants may prove useful to treat apathetic symptoms in depression. Case Presentations: An 84-year-old female with history of hypertension atrial fibrillation antiphospholipid antibody syndrome chronic obstructive pulmonary disease osteoporosis hypothyroidism and past psychiatric history of anxiety presented with failure to thrive. Following the death of a family member the patient developed decreased appetite sleep energy and motivation. On psychiatric consultation the patient met criteria for MDD complicated by

bereavement. After minimal improvement to augmenting agents of mirtazapine and aripiprazole to previously prescribed sertraline 50 mg daily a risk-benefit analysis was completed with multidisciplinary collaboration between psychiatry internal medicine cardiology and the patient's family. Methylphenidate 5 mg twice daily was started to augment SSRI and address symptoms of apathy. On day 1 of stimulant therapy the patient was more responsive accepting of food and able to sit unassisted. On day 3 she was participating in hospital-based therapies feeding herself and verbalizing needs. On day 7 she was discharged to a skilled nursing facility with plan to taper methylphenidate. A 51-year-old female with history of type 2 diabetes cirrhosis choriocarcinoma in remission and past psychiatric history of MDD presented with failure to thrive. The patient separated from her spouse 2 years prior and developed depressive symptoms including apathy decreased appetite energy and concentration and increased sleep. In the 2 weeks preceding admission she became more withdrawn and neglected daily hygiene needs. On psychiatric consultation she demonstrated poverty of thought scant speech flat affect and psychomotor slowing. The patient was started on sertraline 50 mg daily and a 3 day course of methylphenidate 5 mg daily to address apathetic symptoms and psychomotor slowing. On day 1 of stimulant therapy she was more reactive in affect engaged and spontaneous in speech. On day 3 she participated in hospital-based therapies. The patient was discharged to a short-term rehabilitation facility 1 day after completing the methylphenidate course. Discussion: These cases demonstrate the utility of methylphenidate in depression complicated by apathetic symptoms and medical comorbidities. These cases also highlight the challenging and multifaceted

aspects of treating depression in the older adult as it often requires multiple medications and behavioral therapies to return patients to baseline functioning.

Sunday May 05

### **The Dual Influence of Sleep and Cognition on rTMS Outcomes in Treatment-Resistant Depression**

*Ayan Dey M.D.;Ph.D.*

Background: Cognitive dysfunction is a key pathological feature of major depression and bipolar disorder that is often overlooked in the diagnosis and treatment of these conditions [1]. Persistent deficits in cognition are common and serve as a mediator of psychosocial and functional outcomes with implications in terms of decreased productivity and delayed return to work further contributing to the economic burden of these mood disorders. Such deficits are associated with reduced quality of life [2] and increased likelihood of relapsing [3]. Purpose: To investigate how the presence of patient reported cognitive deficits and sleep disturbance impacts antidepressant response to rTMS among adults with treatment-resistant major depressive disorder. Methods: Participants completed a course of rTMS with completion of validated measurement scales at baseline 2 weeks 4 weeks and 6 weeks. Results: In our sample of 349 adults referred for rTMS 78.9% and 40.4% of patients reported having moderate or severe attentional deficits and memory complaints respectively. Whereas 25.4 and 41.1% reported moderate or severe sleep disturbance respectively. The presence of subjective cognitive impairment was associated with worse self-reported functional impairment as measured by the WHODAS ( $p < 0.001$ ). Severity of residual



perceived attentional deficits was the only significant predictor of disability ( $\beta = 0.379$   $p = 0.005$ ) in a model factoring in age medical comorbidity depression severity and self-reported sleep quality following rTMS. Moreover those without persistent subjective attentional deficits were 3 times more likely to achieve remission following rTMS relative those with such complaints (35.9% vs. 12.8%;  $p = 0.012$ ). Interestingly logistic regression revealed that self-reported sleep quality was a stronger predictor of remission ( $\beta = 0.373$   $p < 0.001$ ) following rTMS than self-reported attentional deficits. Patients who responded to rTMS reported on average 58.7% improvement in insomnia scores on the HAMD versus 13.7% among non-responders. Conclusions: Overall our results suggest that while improvements in sleep quality are associated rTMS treatment response residual functional impairment and perceived disability following rTMS are more closely tied to residual subjective cognitive deficits.

Sunday May 05

### **The influence of Parity on Depression in Victims of Intimate Partner Violence: A Descriptive Observational Study in Guayaquil-Ecuador**

*Boris Vargas M.D.*

Background: Intimate partner violence (IPV) is a significant public health issue that is often linked to depression. Previous research has suggested that parity may act as a protective factor against depression and suicide attempts. However this study aimed to determine the impact of parity on victims of IPV and depression in Guayaquil-Ecuador where the stress of caring for children may act as a burden and worsen symptoms of depression for victims. Methods A descriptive

observational study was conducted at the main Gender Violence Prosecutor's office in Florida Guayaquil Ecuador. The sample consisted of 239 individuals (195 women 44 men) who were assessed for depression using the Beck test. The sample was divided into groups based on gender marital status number of children and severity of depression. Results The data analysis revealed that a higher percentage of depression was present in IPV victims with parity. Specifically among those with severe depression 29% of women with children and 18% of men with children were affected compared to 11% of women without children and 14% of men without children. Similarly among those with moderate depression 14% of women with children and 9% of men with children were affected compared to 3% of women without children and 5% of men without children. Finally among those with mild depression 13% of women with children and 16% of men with children were affected compared to 3% of women without children and 5% of men without children. Conclusion While some studies have found that having children can act as a protective factor against depression this was not the case in this study. Financial violence is common in Ecuador and many mothers do not receive economic support from the fathers of their children leading to increased stress and burden. Hormonal and social factors may also play a role in the higher prevalence of depression among women with children. These findings suggest that mental health clinicians should pay particular attention to victims of IPV with multiple children particularly in Latin America.

Sunday May 05

### **Using Machine Learning to Optimize Triage of Patients Evaluated by a**

## Telepsychiatry Consultation-Liaison Service

*Sam Rashkovich MD student; Wenna Xi PhD; Mohit Manoj Sharma MS; Jyotishman Pathak PhD; Christina Shayevitz M.D.*

Background: Telepsychiatry is vital to mental health care delivery in acute care settings especially in the COVID-19 era. The NewYork-Presbyterian (NYP) Telepsychiatry Service is a multi-hospital telepsychiatry consultation hub servicing several NYP hospitals across New York City with traditionally poor psychiatric coverage; it deploys a hybrid model wherein inpatient and Emergency Department patients are assessed by telepsychiatrists or when necessary in-person psychiatric nurse practitioners. Patients may be allocated to in-person evaluation for various clinical and demographic reasons. However the triaging decision making is done manually and hence prone to subjectivity and clinician bias. Developing a data-driven triage algorithm can help improve our understanding of factors associated with reassignment as well as the operating efficiency of the service. Methods: We used data from patients evaluated through the NYP Telepsychiatry Service from 2018 to 2021 at two participating sites (N=3303 visits) to predict having a successful telepsychiatry encounter(primary outcome). Various demographic and clinical predictors including age sex race primary language consult reason consult diagnosis Richmond Agitation-Sedation Scale (RASS) score and historical and acute psychiatric and medical diagnoses were extracted from the electronic health record. We employed multiple machine learning algorithms including logistic regression logistic regression with least absolute shrinkage and selection operator (LASSO) penalty random forest (RF) and extreme gradient boosting (XGBoost) to

predict whether patients would require assignment to an in-person provider. The data was split into training and test sets in a 3:1 ratio and all models were trained using five-fold cross-validation on the training set and evaluated on the test set using the following metrics: area under the ROC curve (AUC) accuracy sensitivity specificity positive predictive value (PPV) and negative predictive value (NPV). Results: The RF model had the highest AUC (0.82 95% CI: (0.77 0.87)) and accuracy (0.91) and was selected as the final model. The most significant predictors included age first psychiatric consult evaluation RASS score schizophrenia spectrum diagnosis acute suicidal ideation/attempt/intentional self-harm and agitation. Conclusion: We developed a clinical decision support algorithm to identify patients that might require triage to in-person psychiatric evaluation. The final RF model achieved good discrimination and excellent specificity (0.99) and NPV (0.91). The algorithm's ability to efficiently identify patients that require in-person evaluation is particularly vital to the triage process. RASS score also emerged as a particularly notable predictive parameter suggesting a broader role for this scale in the future triage and evaluation of psychiatric patients in acute care settings.

Sunday May 05

## When a suicide attempt results in medical hospitalization: Searching for an evidence-base for decisions about psychiatric admission post-attempt

*Omid Cohensedgh; Breanna Keepers; Peter Shapiro*

Background: When patients are hospitalized and medically stabilized on medical services after a suicide attempt their care providers

and psychiatric consultants must decide whether to arrange their admission to inpatient psychiatric care perhaps on an involuntary basis. Although the decision to admit the patient seems clear-cut in many cases difficulty may arise when harmful behavior might have occurred as an accident while intoxicated or impulsively or when the patient once hospitalized consistently denies suicidal ideation and opposes psychiatric admission. Bearing in mind the scarcity of psychiatric inpatient beds and respect for patient autonomy we should seek to reduce admissions that will not improve patient outcomes. We conducted a literature search and narrative review aiming to (1) characterize patients seen by psychiatry consultants in the general hospital after a suicide attempt (2) identify existing guidelines for decisions about their psychiatric disposition and (3) review evidence for the appropriateness of these decisions. Methods: We searched the literature for original research studies using PubMed and SCOPUS from inception to January 2023 to conduct a narrative review. Keywords included “suicide attempt” and “consultation-liaison.” Inclusion criteria included 1) original research; 2) published in English or available as an English language translation; 3) patients aged 18 and older and admitted to the hospital after a suicide attempt; 4) general inpatient medicine setting; and 5) management was recommended by CL psychiatrists. Results: 44 papers were screened and 24 papers meeting the inclusion criteria were included in the review. Risk factors for suicide attempt included older age; male gender; living alone; single divorced or widowed; history of suicidal ideation; prior suicide attempt; functional impairment; stressful life events; substance use (especially alcohol); lower socioeconomic status; and physical illness

especially malignancies with poor prognosis. Various studies highlighted risk associated with major depressive disorder dysthymia personality disorders schizophrenia and mood disorders in general. There is no consensus on preferred suicide risk rating instruments and no current standard of care for psychiatric consultants’ management of patients after a suicide attempt though a few interventions were explored. Discussion: Extant literature on psychiatric consultation in the general hospital for patients admitted after a suicide attempt is congruent with findings about risk factors for suicide in the general population including demographics precipitating factors and psychiatric diagnoses. However for this specific population the literature provides little guidance for decisions about admission to inpatient psychiatry vs recommendation of outpatient follow-up and almost no evidence that psychiatric admission influences their risk of subsequent suicide attempt or suicide mortality.

Sunday May 05

### **2024 Medical Student/Resident Poster Competition Award Ceremony (Not for CME)**

The 2024 Annual Meeting medical student poster competition award ceremony. The poster competition is judged across five categories with one winner from each category - community psychiatry clinical case studies curriculum development patient-oriented care and epidemiology and psychosocial and biomedical research. Community Psychiatry: Kai Y. Huang from the University of Alberta Clinical Case Studies: David Eckles M.D. from Tripler Army Medical Center Curriculum Development: Kaitlin Hanss M.D. M.P.H. Patient-Oriented Care

and Epidemiology: Ezra Smith B.S. from Texas Tech University Health Sciences Center School of Medicine Psychosocial and Biomedical Research: Kevin Yang from the University of California San Diego

Sunday May 05

### **A cross-sectional study of dementia disability and health service utilization in China**

*Yueqin Huang M.D.; WU Wenlei; Zhaorui Liu; TINGTING ZHANG*

**Objectives:**To describe the disability rates of dementia in population and in patients and explore psychosocial risk factors of disability in community residents aged 65 and over in China. **Methods:**The study calculated the weighted coefficients based on a complex sampling design of stratified multistage unequal probabilities. Disability rates of dementia in population and in patients for different comorbidities groups were calculated. And the treatment and admission rates of dementia patients with disability in the last 12 months were also calculated. A comparison of WHODAS 2.0 scores among comorbidities groups was made by ANOVA. Chi-square tests were used to describe the distribution of disability rates of dementia in the last 12 months of dementia patients with disability. **Results:**1. The weighted disability rate of dementia was 2.15% in population and 38.64% in patients. The disability rates of comorbid dementia in population and patients were higher than those of patients with only dementia. 2. The scores of WHODAS 2.0 for the 7 comorbidity groups were as follows: other mental disorders comorbid physical diseases (23.11±9.90) dementia comorbid other mental disorders and physical diseases (22.85±11.06) dementia comorbid physical diseases

(19.76±9.47) other mental disorders (18.00±8.34) physical diseases (17.27±8.12) dementia (14.78±7.86) and healthy group (13.52±4.22). 3. For dementia disability in population multivariate linear regression analysis of WHODAS 2.0 scores showed that economic status gender age and treatment in the last 12 months were statistically significant with standardized regression coefficients of 0.12 0.12 0.10 and -0.19 respectively. Multivariate logistic regression analysis of risk factors for dementia disability in population showed that female (OR=2.81) and treatment in the last 12 months (OR=2.38) were statistically significant. 4. For dementia disability in patients multivariate linear regression analysis of WHODAS 2.0 scores showed that residential area gender and treatment in the last 12 months had statistical significance with standardized regression coefficients of 0.22 0.20 and -0.24 respectively. Multivariate logistic regression analysis of risk factors for dementia disability in patients showed that female (OR=4.88) urban resident (OR=4.03) and treatment in the last 12 months (OR=2.93) were statistically significant. **Conclusions:**The disability rates of comorbid dementia in population and patients were higher than those of patients with only dementia. Economic status gender age and treatment in the last 12 months are factors that influenced the severity of dementia disability in population; female and having treatment in the last 12 months were associated with the occurrence of dementia disability in population.

Sunday May 05

### **A Prediction of Time to Competency Restoration with BPRS Evaluations in Patients with Schizophrenia**

*Aderonke Oyetunji MD MBA; Jared Bruce;  
Jianwei Jiao; Alexis Humenik*

**Introduction** Psychotic disorders are the most common diagnoses amongst individuals adjudicated incompetent to proceed in state hospital facilities. The Brief Psychiatric Rating Scale (BPRS) is a clinician-rated assessment for quantifying psychotic symptoms within different domains. It has been validated as a transdiagnostic tool that effectively measures symptom severity and change in symptom status. This project aims to determine what BPRS domains are useful predictors of time to competency restoration among patients with Schizophrenia admitted to a forensic unit. **Method** We completed a chart review of male patients with a diagnosis of Schizophrenia or Unspecified Schizophrenia Spectrum and Other Psychotic Disorder in a state psychiatric hospital. Patients were excluded if they were transferred to another facility or did not participate in the assessment on admission. Subscales on the BPRS assessments were categorized into six domains (Affect Resistance Positive symptoms Negative symptoms Activation and Disorganization) which were used to predict time to competency restoration (TTCR). Spearman's rho and Cox regression analyses were employed using IBM SPSS v.29 and statistical significance was set a priori at  $p < .05$ . **Results** A total of 129 participants predominantly white (66.7%) with a median age of 37 years were included in the study. Participants had a median TTCR of 132 days and length of stay of 203 days. Higher disorganization upon admission was associated with longer TTCR ( $r(126) = .460$   $p < .001$ ). Longer TTCR was also associated with more positive symptoms ( $r(125) = .272$   $p = .002$ ) and increased activation ( $r(126) = .240$   $p = .006$ ). A multivariable model predicting TTCR retained race ( $p = .020$ ) affect

( $p = .027$ ) and disorganization ( $p = .001$ ). Overall results from both analyses show that disorganization symptoms significantly contribute to the unique variance in TTCR. **Conclusion** Disorganization is a primary feature of cognitive dysfunction in schizophrenia and is the strongest predictor of TTCR. Future research may wish to examine the predictive value of objective neuropsychological tests and whether cognitive remediation therapy reduces TTCR. Lastly future research is needed to confirm the clinical value of clinician-administered rating scales when predicting TTCR.

Sunday May 05

### **Addressing the Knowledge Needs of Family/Friend Carers about Driving Cessation with the Driving and Dementia Roadmap**

*Mark Rapoport MD FRCPC; Elaine Stasiulis PhD; Gary Naglie MD FRCPC*

**Background:** Family/friend carers (FCs) in addition to people with dementia (PWD) generally feel ill-equipped to manage the emotional and practical challenges of driving cessation. To support FCs and other affected individuals by providing them with the knowledge to guide them through this major transition we developed and disseminated the Driving and Dementia Roadmap (DDR) ([www.drivinganddementia.ca](http://www.drivinganddementia.ca)). The DDR is a comprehensive evidence-based website comprised of information and tools (e.g. videos worksheets) uniquely directed to FCs PWD and healthcare providers. In this poster presentation we report on early survey results of FCs' perspectives of using the DDR. **Methods:** All DDR users including FCs were invited via a pop-up message that appeared as they were exiting the DDR to participate in an online survey about the DDR. Participants



were asked about the knowledge they gained and changes in confidence attributed to using the DDR as well as their satisfaction with aspects of the DDR. Descriptive statistical analysis was conducted. Results: To date 23 FCs completed the surveys. Almost half (47.8%) of the FCs were children of the PWD and 17.4% identified as the spouse/partner. The driving status of the PWD they were caring for was evenly divided with 47.8% still driving and 47.8% no longer driving (4.3% did not respond). In regards to knowledge gained about driving cessation close to half or more FCs rated most DDR topics as providing new knowledge such as “reporting and licensing” (73.9%) “recognizing when driving becomes unsafe” (60.9%) “having conversations about giving up driving” (52.2%) and “transitioning and planning ahead” (52.2%). This gain in knowledge was reflected in FCs’ reports of having somewhat or much more confidence about “helping the PWD to make the decision to stop driving” (78.2%) “initiating conversations about driving” (73.9%) “navigating licensing and reporting” (61.9%) as well as “helping the PWD maintain their mobility” (52.1%). However although 47.8% FCs rated the topic “managing when the PWD won’t stop driving” as new knowledge 47.8% indicated having much less less or no change in confidence about this issue. All characteristics of the DDR were rated highly (satisfied or very satisfied) by over 80% of participants with “trustworthiness of the DDR” (91.3%) and “clarity of information” (95.7%) receiving the highest scores. Conclusion: The DDR appeared to effectively address FCs’ knowledge and confidence about some of the key issues associated with driving cessation – recognizing and making the decision to stop driving when driving becomes unsafe as well as planning ahead by having conversations about driving. However early results also suggest that

knowledge and strategies to better support FCs to manage when the PWD continues to drive requires further attention.

Sunday May 05

### **Applying Machine Learning Models to Existing Food Insecurity Screenings: An Exploratory Data Analysis**

*Megan Flores; Stephanie Rolin; Chelsey Recendez*

Background: Food insecurity significantly increases the risk of anxiety and depression. While hunger relief organizations exist to help address this issue persons experiencing food insecurity may avoid seeking nutritional assistance due to the subjective nature of the hand-scored interview-based screening techniques used by many hunger relief organizations. This type of screening has been associated with long waiting times inconsistent documentation requirements (e.g. proof-of-identity) and degrading feelings of compulsory gratitude. Updated food insecurity screening practices that rely on objective measures could help address these concerns. Objective: This exploratory data analysis sought to utilize machine learning models to predict an individual’s categorization of food insecurity using objective measures as accurately as hand-scored evaluations. Methods: This study is based on data from the United States Census Bureau’s Current Population Survey Food Security Supplement 2021 dataset. Inclusion criteria for persons included 1) being a U.S. civilian 2) being in a noninstitutionalized population and 3) being age 16 years or older. This study analyzed each participant’s objective factors known to be associated with food insecurity (such as household income) and subjective survey responses to the Food Security Supplement questionnaire (which

asks participants for their recent experience in obtaining and consuming food) to create the final machine learning models that predicted a participant's food insecurity score (ranging from "Very Low Food Security" to "Very High Food Security"). Objective factors were selected based on a review of the literature. In total 71472 entries with valid food insecurity assessment scores were randomly divided into a 75% train/validation split in which 75% of the data was used to create the machine learning models and 25% of the data was used to test whether these models were effective. The final generated models were 1) ordinary least squares regression 2) hybrid feature selection regression and 3) random decision forests. The success of each generated model was assessed by the percentage of correct predictions and root mean squared logarithmic error. Results: Each model's predictive capabilities were significantly improved by the addition of objective factors rather than only subjective survey factors. The most successful machine learning model was a bagging random forest tree model that correctly predicted 97.65% of food insecurity scores in the validation dataset. Conclusion: Machine learning algorithms were capable of accurately predicting food insecurity assessment scores. Future research testing the viability of these machine learning models could evaluate whether food insecurity can be screened without an interviewer present and if technology-based screening techniques can decrease anxiety and depression among food-insecure populations by improving access to nutritional resources.

Sunday May 05

## **Beyond Barbie: A call for use of representative samples in eating disorders research**

*Gloria Lee M.D.; Seung-Hee Hong; Jennifer Medicus; Laura Fochtmann M.D.*

Background: Eating disorders are often seen as illnesses of young White women. However eating disorders occur in individuals of all genders races ethnicities and age groups. Our objective was to assess whether research on anorexia nervosa (AN) bulimia nervosa (BN) and binge-eating disorder (BED) is likely to be applicable to all individuals with these disorders. Method: We used articles identified as part of the systematic review that served as the basis for the American Psychiatric Association's Practice Guideline for the Treatment of Patients with Eating Disorders. Information about each study was taken from evidence tables that were used in guideline development. Summary statistics were calculated using Excel. Results: The average ages of study participants were 19.8 25.5 and 41.0 years for AN BN and BED respectively. Of trials that reported gender (129/136; 94.9%) the sample was limited to females in 69 studies (42.8% AN 79.5% BN 38% BED  $p < 0.001$ ). No studies reported numbers of LGBTQ+ participants. Race and ethnicity were reported less often than gender. Data was available in 11 of 37 AN studies (29.7%) and 15 of 49 BN studies (30.6%) as compared to 31 of 50 BED studies (62%;  $p < 0.05$ ). Study characteristics also affected sample generalizability. Research conducted in the US or Canada was more likely to include men as well as women (57.4% vs. 35.4% in other studies) and report race/ethnicity (70.4% vs. 23.2%). Funding source also affected sample diversity with 62.5% of industry- and 53.3% of government-funded studies having mixed gender samples as compared to other studies (31.3%).

Race/ethnicity was reported in 66.7% 57.8% 25% of studies respectively by funding source. Proportions of mixed gender samples and reporting of race/ethnicity have increased over time (18.2% and 21.2% respectively before 2000 38% and 42% from 2000 to 2009 and 66% and 54.7% since 2010). Finally studies rated as having a low to moderate risk of bias (RoB) were more likely to have a mixed gender sample (64.9%) than those rated as having a high RoB (36.2%) but reporting of race/ethnicity did not vary with RoB (42.6% for high RoB vs. 43.2% for low/moderate RoB). Conclusion: A substantial proportion of studies on eating disorders continue to be limited to younger participants and women. Furthermore race and ethnicity are often unreported. Recent studies in the US and Canada those with low/moderate risk of bias and those funded by industry or governmental agencies may be more likely to include men or describe the race/ethnicity of their samples. In interpreting research on eating disorders clinicians should be mindful that findings may not be generalizable to older individuals men LGBTQ+ individuals and historically under-represented racial and ethnic groups. Use of representative samples is crucial in future research on eating disorders.

Sunday May 05

### **Breaking the Silence: Suicidal Crisis Syndrome in Black Youth**

*Yasir Masood M.D. M.P.H.; Eyuel Terefe M.D.*

Objective: Evaluate and manage suicide risk by accurate and routine implementation of a scientifically proven risk assessment in Black youth. Background: Suicide ranks as the leading cause of death among adolescents and young adults in the United States.<sup>1</sup> It is concerning as children and adolescents aged

5 to 11 make up 15% of the population black youth accounted for a 37% of all juvenile suicides between 2003 and 2011. <sup>2</sup> A new concept called Suicidal Crisis Syndrome (SCS) is proposed to improve the assessment of pre-suicidal psychopathology aiding in predicting suicidal behavior. However there is a lack of research specifically focused on identifying risk factors for Suicide Crisis Syndrome in black youth. Suicidal crisis syndrome (SCS) refers to a state preceding suicide characterized by cognitive instability along with behavioral changes triggered by real or perceived threats. Suicidal crisis syndrome (SCS) a presuicidal mental state characterized by affective and cognitive dysregulation along with changes in behavior in response to a real or perceived danger.<sup>3</sup> Methods: Literature review was performed via searches in various data-bases (PubMed MEDLINE Ebsco and ProQuest and Scopus) from January 2018 to December 2022. Following keywords were used African American adolescents black youth suicide suicide risk factors suicide prediction suicide prevention. Results: Suicide among black adolescents has a distinct origin highlighting the critical need of assessment tools that fully understand the complex nature of suicidality in black youth. There is a paucity of research that focuses on the suicidal crisis syndrome prevalent in black youth. It is recommended to introduce Suicide Crisis Syndrome (SCS) as a category in DSM-V following prediction validation implemented into therapeutic practice. Conclusion: The risk of suicide in Black youth are distinct in etiology from adolescents of other racial/ethnic groups due to a combination of lower levels of traditional markers of risk (such as psychiatric diagnoses/symptoms) and the wide variety of socioecological suicide risk factors. Suicide-Crisis Syndrome may present an opportunity to objectively

measure the current pre-suicidal emotional and mental state by validated clinical tools whereas past suicide attempts and other classical suicide risk factors provide only marginal improvement of diagnostic accuracy and minimal incremental prediction of future suicide attempts.

Sunday May 05

### **Bulimia Nervosa and Cardiovascular Risks: A Longitudinal Study in Taiwan**

*Cheyin Lin; Mei-Chih Tseng; YUHSUAN SHAO; Hung-Yi Liu*

**Background:** Bulimia nervosa (BN) characterized by binge-eating cycles and subsequent restrictive eating or purging induces metabolic alterations electrolyte imbalances and endocrine disruptions potentially elevating cardiovascular risk. This study explores cardiovascular complication incidence and risk in a nationwide cohort of Taiwanese patients diagnosed with BN. **Methods:** Over an 11-year period this cohort study analyzed population-based health insurance data for 10838 patients with BN and their 1:10 matched controls without eating disorders. Matching criteria included propensity scores for sex age residency socioeconomic status and year of diagnosis resulting in 119218 individuals. The study enrolled individuals aged 10-59 years with a first-time diagnosis of BN from psychiatrists between 2011 and 2021. Outcome measures included major adverse cardiovascular events (MACE) and composite cardiovascular diseases encompassing congestive heart failure stroke acute myocardial infarction ischemic heart diseases conduction disorders inflammatory heart disease valve disorder cardiomyopathy cardiac arrest hypotension and atherosclerosis. Kaplan–Meier curves were utilized to estimate

cumulative cardiovascular events. Following adjustments for basic characteristics psychiatric comorbidities and physical comorbidities (including hypertension hyperlipidemia and diabetes mellitus) Cox proportional regression was employed and a risk model with death as a competing event was developed to assess cardiovascular risk in the BN group compared to controls. **Results:** A total of 611 patients with BN experienced cardiovascular diseases with 324 encountering MACE. Cumulative incidence rates for cardiovascular diseases and MACE in the BN group were 10.18% and 5.54% at the 10-year follow-up. Compared to the control group the BN group had a significantly higher risk of cardiovascular disease (adjusted hazard ratio [HR]: 1.12; 95% confidence interval [CI]: 1.02-1.23) and MACE (adjusted HR: 1.35; 95% CI: 1.18-1.54). When comparing sexes a significant increase in the risk of both cardiovascular diseases and MACE was observed in females but not males in the BN group. Adjusted HRs for MACE and cardiovascular diseases significantly increased in the first 24 months and over 60 months after diagnosis. Regarding specific cardiovascular diseases a significantly higher risk was observed only for cardiomyopathy (adjusted HR: 2.54; 95% CI: 1.01-6.39) and hypotension (adjusted HR: 2.56; 95% CI: 1.64-3.99). **Conclusions:** This study highlights a heightened risk of MACE and cardiovascular disease especially hypotension and cardiomyopathy in individuals with BN. It underscores the need for prolonged cardiovascular monitoring particularly in females with a history of BN. This study was supported by grants from the National Science and Technology Council Taiwan and Taipei Medical University.

Sunday May 05

## **Characterizing a novel Restoration to Trial Fitness Program in an Academic Community Hospital setting**

*Carolyn Shima MD; Julia Chael; Kristen Jacobson PhD; Richard Cockerill MD*

Background: There is a high prevalence of mental illness among individuals who interact with the criminal justice system. The referral rate for forensic psychiatric treatment has increased over the past several years with a 76% increase in forensic admissions noted across 35 states from 1999 to 2014. Over this same period there was a 72% increase in admissions for patients deemed unfit to stand trial who require restoration treatment to resolve their charges. A recent meta-analysis found an 81% restoration rate with a median length of stay of 146 days. The gold standard for time to restoration to fitness is within 90 days. The current system for restoration to trial fitness is in crisis due to a critical shortage of available restoration beds. To address these problems the University of Chicago Medical Center and the Illinois Department of Human Services (IDHS) embarked on a pilot project to allow our community-based inpatient psychiatric hospital to create a novel restoration to trial fitness program. The goal of this study is to describe the characteristics and outcomes of patients who completed the program between December 2020 and June 2023. Methods: IRB approval was obtained for this retrospective chart review study. Data on fitness determination time to determination patient demographics charge type/severity and psychiatric diagnoses were extracted from medical charts and IDHS records. Characteristics of patients who did and did not achieve restoration to fitness were compared using chi-square and t-tests. Results: Patients were aged 18-71 (56% female 60% non-Hispanic White). Most (76%)

had history of prior arrest and 60% were currently facing Class 3 or 4 felony charges. The majority (82%) had a psychotic disorder. Almost 75% (N=69) were restored to fitness. Patients who achieved fitness were in treatment fewer days (M=86.5 SD=65.1) than patients deemed unlikely to be fit (N=24 M=143.1 SD=83.9;  $t(91)=3.36$   $p=.001$ ). There were no gender differences ( $X^2=0.17$   $df=1$   $p=.68$ ) in fitness determination. However patients who achieved fitness were younger (35.6 vs 44.9;  $t(91)=3.15$   $p=.002$ ) and more likely to be non-Hispanic White (67.1% vs 39.1%;  $X^2=5.67$   $df=1$   $p=.017$ ) than patients unlikely to be fit. Cognitive disability was reported in 50% of patients unlikely to be fit but in <2% of patients who achieved fitness. Conclusion: This study provides promising evidence that restoration to fitness can be achieved in a majority of patients receiving inpatient psychiatric care outside traditional state hospitals. Moreover restoration can be achieved within the gold standard of 90 days. Cognitive disability older age and factors associated with minority status are some of the characteristics that may predict treatment success.

Sunday May 05

## **Comparing Trainee and Non-Trainee Perspectives on Caring for Psychiatric and Substance Use Disorder Patients in Two Academic Emergency Departments**

*Rushali Kothari; Mano Senthil; Dion DePraw MD; Alan Lewis M.D.; Ph.D.*

Patients with psychiatric or substance use disorders represent a substantial proportion of total individuals presenting to emergency departments (EDs). There are many potential barriers to quality care for these patients in EDs including high wait times stigmatization



of mental health problems lack of ED provider training and limited availability of specialized psychiatric consultants. Thus it is important to understand how ED providers both during and after training perceive caring for this patient population. Clearer understanding of this question will identify focused educational and resource supports that may be addressed by collaboration with psychiatric colleagues. To address this goal we used REDCap to survey emergency medicine resident physicians and post-training practitioners (attending physicians nurse practitioners and physician assistants) at Vanderbilt University Medical Center (VUMC Nashville TN) in 2022 with a follow-up study at Albany Medical Center (AMC Albany NY) in 2023. Here we present the aggregated results across the two studies. We received responses from 48 resident physicians (34 from VUMC 14 from AMC) and 81 post-training practitioners (63 from VUMC 18 from AMC) and analyzed responses using descriptive statistics. Most practitioners reported some training in emergency psychiatry (83% classroom didactics 35% simulation training and 81% clinical training with psychiatry providers). Practitioners across training status agreed that improving psychiatric and substance use treatment would have a disproportionately positive impact on the efficiency of the ED as whole (86%). Trainees and non-trainees reported similar comfort levels overall in caring for this patient population with 73% and 79% respectively reporting fair comfort or greater. Using a 10-point Likert scale approximately fair or better comfort levels were reported by all respondents regarding evaluation and management of suicidal or homicidal ideation alcohol/drug intoxication or withdrawal capacity to refuse treatment malingering and mania and psychosis. Poorer comfort levels were reported for

understanding civil commitment procedures and factors related to disposition level of care decisions. Finally 92% of residents and 98% of non-residents felt that a mandatory or elective rotation in emergency psychiatry should be offered during emergency medicine residency training. Overall results from resident physicians largely approximated those from post-training practitioners for most questions. Our findings show that ED practitioners across training level identify the importance of caring for this patient population and have at least moderate comfort in treating many of the most common chief complaints. We identified specific areas of knowledge deficits that could be targeted using educational interventions. Finally we showed overwhelming interest in the opportunity to receive emergency psychiatry training during emergency medicine residency.

Sunday May 05

### **Coping Behaviors Social Support and Emotional Health during the COVID-19 Pandemic among Urban American Indian and Alaska Native Peoples**

*Cole Haskins MD PhD*

Objective: This study examines the effects of coping behaviors and social support on emotional health in American Indian and Alaska Native (AI/AN) peoples. The COVID-19 pandemic has placed a burden on the health of many and the study seeks to better understand factors associated with well-being. Methods: Cross-sectional survey data was collected from 1164 participants seen at six urban health organizations serving AI/AN peoples primarily in urban settings from November 2021 to May 2022. The primary outcome is self-reported change in emotional health since pandemic onset.

Exposures of interest include avoidant and direct problem-solving coping behaviors functional and emotional social support. Additional exposures included previously identified relevant pandemic factors; life disruptions and concern for cultural impacts. Poisson regression was used to model adjusted multivariate associations. Results: Since pandemic onset 39% of participants reported worsened emotional health. Using problem-solving coping skills was associated with better emotional health as was “always” getting emotional support and increasing amounts of functional support [adjusted Prevalence Ratio (PR) 0.66; 95% CI: 0.54 - 0.81 and PR 0.40; 95% CI: 0.30 - 0.55 and PR 0.90; 95% CI: 0.87 - 0.92] respectively. The evidence was limited for psychological resilience modifying primary effects. COVID-19-related life disruptions and concern for cultural impacts were associated with worse emotional health. Conclusions: Problem-solving coping skills and increasing social support were associated with better COVID-19 pandemic emotional health among urban AI/AN peoples. These findings can be used to identify strengths-based approaches to support community emotional health during social upheavals. This study was supported by the National Institutes of Health under Award Number 3U54MD011240-06S1; Dr. Haskins is a member of the Pathways Resident Research Track Department of Psychiatry University of Colorado School of Medicine R25MH125758.

Sunday May 05

### **Depressive Symptoms in Older Mexican Americans and the Role of disability care**

*aymun razzak; Kyriakos Markides; Phillip Cantu*

Background: Caregiving and caregiving intensity is associated with increased depressive symptoms among caregivers. However it is unclear how source of care is related to depressive symptoms in community-dwelling care recipients. The relationship between source of care and depressive symptoms is especially important for older Mexican Americans who are less likely than other non-Hispanic whites to enter into nursing homes. Methods: Using data from the 2010 seventh wave of the Hispanic Established Populations for the Epidemiologic Study of the Elderly (H-EPESE) (n=550) we assessed the association between depressive symptoms in care recipients and the source of care for ADL activities of daily living disability in Older Mexican Americans age 80+. Depressive symptoms were measured using the Center for Epidemiological Studies Depression (CESD) scale. Care sources for ADL care for care recipients including the caregiver the care recipient another family and other non-family. We used regression models controlling for the care recipient and caregiver characteristics as well as the care recipient's health. Results: The average CESD score of care recipients was 11.12. Care recipients' mean age was 87 years old 68% were women and 52% were born in the U.S. Caregivers reported sources of care included the care recipient (73%) the caregiver (32%) another family (13%) and other non-family (21%). Care recipients who provided care for themselves had significantly fewer depressive symptoms (-3.16) while those who reported non-family as sources of care had significantly higher depressive symptoms (3.33). Depressive symptoms were higher for females than males and among those who had fewer than seven years of education. Conclusion: The source and amount of attention the care

recipients receive are crucial in determining the risk of developing depressive symptoms.

Sunday May 05

### **Disparities in the Care of Youth with Agitation or Aggression in the Emergency Department: A Systematic Review and Clinical Guidance**

*Nasuh Malas; Megan Mroczkowski*

Objective: This systematic review aims to summarize the current state of research literature on disparities in the care of youth with agitation and aggression in the Emergency Department (ED) including referral assessment diagnosis use of pharmacologic interventions and utilization of restraint and seclusion. Method: This study used the preferred reporting items for systematic reviews and meta-analyses (PRISMA) 2020 checklist searching PubMed and PsycINFO databases (May 1 2013-May 5 2023) for studies that reported disparities in the care of youth with agitation or aggression in the Pediatric ED. Results: Disparities in the care of youth with agitation or aggression in the ED have been documented for race sex age developmental status and insurance status. There is no data on disparities in ED-based care of youth with agitation or aggression based on gender identity and/or presentation sexual orientation socioeconomic status (SES) systems-involvement (including child welfare foster care juvenile justice) or language proficiency. Conclusion: While there is some data on disparities in the care of youth with agitation or aggression the ED documented for race sex age developmental status and insurance status further work in this area is needed. Actionable steps to address mental health disparities in the pediatric ED are discussed.

Sunday May 05

### **ECT-AD: Insights into Baseline Demographics of a Novel Dementia Treatment**

*Maria Lapid; Georgios Petrides; Martina Mueller; Brent Forester*

Background: ECT-AD is a multi-site NIA-funded FDA-regulated clinical trial to investigate the effectiveness of electroconvulsive therapy (ECT) in treating severe and treatment-refractory agitation among patients with advanced dementia a condition that has a profound negative impact on patient quality of life and caregiver burden. In this poster we describe baseline demographics of our patient population in this ongoing study. Methods: Baseline demographic information was collected at the time of enrollment. Clinical assessments were conducted to evaluate cognitive and functional impairment as well as severity of agitation. These included the Mini-Mental State Examination (MMSE) and Severe Impairment Battery (SIB-8) for cognitive function Barthel Index (BI) for functional impairment and Cohen-Mansfield Agitation Inventory (CMAI) Neuropsychiatric Inventory (NPI) and Pittsburgh Agitation Scale (PAS) for agitation. Descriptive statistics were used to summarize demographics using frequencies and percentages for categorical variables and means and standard deviations for continuous variables. Results: To date we have enrolled 18 participants with a mean age of 74.1 years where majority are male (61.1%). The racial composition is predominantly White (94.4%) with Asian representation (5.6%) and with 11.1% identifying as Hispanic or Latino. Dementia subtypes in our cohort include Alzheimer's disease (AD 77.8%) vascular dementia (VaD

16.7%) and frontotemporal dementia (FTD 5.6%). Baseline assessments reveal severe cognitive and functional impairment as indicated by mean scores of MMSE  $4.0 \pm 4.6$  BI  $52.2 \pm 21.8$  and SIB-8  $2.9 \pm 3.8$  all consistent with advanced stages of dementia. High mean total scores on the CMAI ( $75.8 \pm 23.8$ ) NPI agitation ( $15.1 \pm 7.1$ ) and aggression ( $9.2 \pm 5.4$ ) scales and PAS ( $7.8 \pm 4.3$ ) reflect the severe levels of agitation and aggression in our participants.

Conclusions: These baseline demographic and clinical data underscore the profound impact of advanced dementia on patients highlighting the need for innovative treatment approaches like ECT. The ECT-AD trial offers a critical step towards understanding and improving the management of agitation in dementia with implications that could enhance current clinical care practices.

Sunday May 05

### **Ethical problems related to the care for transgender individuals in a psychiatric hospital: a document analysis**

*Cassandra Siqueira Psychiatrist; Manoela Pozzolo Pedro; Adriana Godoi*

Transgender individuals (TI) are more likely to have denied rights as they are victims of social exclusion and violence which can produce a variety of stresses that contribute to psychopathology. TI with mental disorders can experience double stigma including in healthcare settings. Different perspectives favor the emergence of misunderstandings called ethical problems weakening the assistance to service users and also exposing professionals to suffering situations. This study aims to identify ethical problems occurring in psychiatric hospitalizations of TI and may contribute to comprehend the barriers to treatment and the provider's

difficulties with an opportunity to reflect on the ethical dimension of care. A qualitative exploratory study using thematic analysis of data present in medical records of TI admitted to a Brazilian psychiatric hospital from April 2021 to December 2023. Ethical problems were identified through units of meaning related to 5 themes: communication autonomy best interests discrimination and safety. Sample of 12 TI hospitalized mostly due to substance use disorders followed by mood and personality disorders. All 8 trans women and 4 trans men were kept in shared female wards. Information about their narratives was incomplete in many cases. Gaps were observed in important variables such as sexual orientation gender transition process history of hormone therapy and perception about the ward in which was allocated. In contrast there were repeated reports referring to them as “doesn’t listen”. Problems related to autonomy were also observed with the majority hospitalized against their will or with consent considered invalid and descriptions of coercive approaches. Expressions related to their preferences were described such as “questions knowledge of her social name” “refuse medication” “I can't stand here anymore I want to resume my activities” “she is not happy with the treatment”. Records of pronouns in the sex assigned at birth different from the adopted gender were very frequent and there were also notes of transphobic attitudes of professionals or other patients. Concerns about the physical and sexual safety of other patients and staff were observed with reports of sexual involvement and aggressive threats by the patient. A contemporary challenge in biomedical ethics is the recovery of moral principles capable of coexisting with the value pluralism of the societies. This analysis suggests the frequent failure to establish trusting relationships

which may be influenced by prejudice professional's lack of knowledge and cultural competence misunderstanding of the patient's best interests their refusal to adhere to treatment and non-formalized work processes. This study aims to encourage the awareness of professionals to provide respectful treatment adapted to personal needs finding a therapeutic balance between dealing with the patient's resistance respecting autonomy and promoting well-being.

Sunday May 05

### **Feasibility of Clinician EMR Prompts to Encourage the De-prescribing of Antipsychotics in Patients with Dementia**

*Jamie Fyda M.D.; Brenda Zuniga; Maria Enriquez*

Background: Antipsychotics have been shown to be effective in reducing the behavioral and psychological symptoms of dementia. These medications are associated with increased mortality and risk of cardiovascular events. As a result in 2008 the FDA issued a black box warning cautioning the use of all antipsychotics in patients with dementia. Despite this antipsychotic medications have been widely used in post-acute care settings to manage behavioral and psychological symptoms of dementia. The most recent data from 2017 shows that 15.7% of residents in nursing homes receive antipsychotic medications for conditions other than schizophrenia Tourette or huntingtins. Data from 2017 show that Illinois ranked second highest in terms of antipsychotic use at 19.1%. Aims: The goals of this quality improvement project are to increase the frequency de-prescribing of antipsychotic medications in patients in dementia in post-acute care facilities. This

particular study looked at the feasibility of automated identification and clinician notification of post-acute care patients with dementia who were prescribed antipsychotics. Methods: This quality improvement project was performed in collaboration with Bespoke Psychiatry Illinois' largest provider of psychiatric services to post acute care facilities. Patients prescribed antipsychotics in the context of dementia were continually identified among patients seen in the month prior to project starting. Clinical alerts in the EMR were created notifying providers that the patient was on antipsychotic and has a diagnosis of dementia. After three months all providers were invited to complete a survey. 12 of the providers (psychiatrists NPs PAs) responded to the survey. Results: 12 providers participated in the survey. 11 of the 12 completed each question. 100% (12/12) of survey respondents stated that they were aware of the increased mortality risk associated with antipsychotic medications in patients living with dementia. 100% (12/12) of survey respondents stated that they were aware of the FDA black box warning regarding the use of antipsychotics in dementia. 91.7% (11/12) of survey respondents stated that they noticed the clinical prompts one did not answer the question. 100% (12/12) of survey respondents stated that they found these clinical prompts to be useful. 8.6% (1/12) of the respondents stated that they found that the alerts got in the way of patient care. Conclusion: This quality improvement project lends evidence to the idea that clinical alerts can be found useful by clinicians in the post-acute care setting. This data has contributed to the development of a more comprehensive alert system with a geriatric psychopharmacological focus. Future studies will need to be performed to measure effectiveness of this intervention leading to



de-prescribing antipsychotics in patients with dementia living in post-acute care settings.

Sunday May 05

### **Impact of lecture series on resident competency in Equity Inclusion Diversity in workplace culture and patient care**

*Catherine Soeung M.D.; Diana Wang M.D.*

Impact of lecture series on resident competency in Equity Inclusion Diversity in workplace culture and patient care  
Importance: Equity inclusion and diversity are three principles that work together to be supportive of different groups of individuals including people of different races ethnicities religions abilities genders and sexual orientations. Equity means the quality of being fair and impartial. Diversity means understanding that there is unique and variety of persons. This includes differences of beliefs abilities backgrounds values and identities. Inclusion meaning to include all those parties or groups involved in a process. Objective: This study highlights the findings of a lecture series created to educate physician residents on equity inclusion and diversity in the workplace including workplace culture and patient care. Design setting subjects: Physician residents in training were surveyed prior to the educational lecture series and after on their competency of equity inclusion and diversity in workplace culture and patient care. Brief survey was generated asking residents various questions on their competency and how comfortable they were with certain topics related to equity inclusion and diversity. Likert scales ranking with numerical value 1-5 with 1 being not at all and 5 being very comfortable. Results Of the 15 US residents were surveyed prior to the equity inclusion diversity lecture 15 of 15 participants (100%) met at predetermined

criteria to participate in survey. 13 pre lecture participants were male 2 pre lecture participants were female. 11 post lecture participants were male 4 post lecture participants were female. Likert scale 1-5 used to rank responses with 1 being not at all and 5 being very comfortable. Pre lecture ranged from 4.2 4.3 3.73 3.13 2.6 3.6 3.8 4.3. Post lecture responses ranged from 4.3 4.6 4.26 4.13 3.86 4.13 4 4.6 Conclusion and Relevance Results of this quality improvement study suggest that the majority of participants in US residency program did not feel sufficiently educated in the topics of equity inclusion and diversity. However after participation in the EID lecture series felt increased comfort with the topics they were presented. Although this investigation cannot determine how a community residency program's education reflects the diversity and inclusion within the program these findings suggest that there is a gap in the information that residents in training need to further their level of understanding in topics of equity inclusion and diversity in workplace culture and patient care.

Sunday May 05

### **Incidence and Risk of Cardiovascular Diseases in Patients with Anorexia Nervosa in Taiwan**

*Mei-Chih Tseng; YUHSUAN SHAO; Hung-Yi Liu*

Objectives: To investigate the incidence and risk of cardiovascular (CV) outcomes in a nationwide cohort of Taiwanese patients with anorexia nervosa (AN). Methods: This longitudinal cohort study analyzed the data of 23155 individuals—comprising 2105 patients with AN and their controls (non-eating disorders) matched (1:10) using propensity scores according to sex age degree of urbanization of residence socioeconomic

status and year of diagnosis—from a population-based database; the study lasted 11 years. Data of individuals with AN were extracted from the Taiwan National Health Insurance Research Database (NHIRD) merged inpatient and ambulatory care/emergency department database. The diagnosis of AN was based on International Classification of Diseases Ninth Revision Clinical Modification (ICD-9-CM) code 307.1 and ICD Tenth Revision Clinical Modification (ICD-10-CM) code F50.0. Individuals with AN who were aged  $\geq 10$  years and  $< 60$  years and received a first-time diagnosis of AN from psychiatrists between 2011 and 2021 were enrolled in this study. Outcome measures were major cardiovascular adverse events (MACE) and composite CV diseases (including congestive heart failure stroke acute myocardial infarction all ischemic heart disease conduction disorders inflammatory heart disease valve disorder and cardiomyopathy cardiac arrest hypotension and atherosclerosis). We used Kaplan–Meier curves to estimate the cumulative incidence of CV outcomes. We also performed Cox proportional regression and constructed a risk model with death as a competing event (adjusted for hyperlipidemia hypertension diabetes mellites and psychiatric comorbidities) to examine the risk of MACE and composite CV outcome in the AN group relative to the control group. Results: In total 110 (incidence rate 10.76 per 1000 person-years) and 142 patients (incidence rate 14.40 per 1000 person-years) with AN had MACE and CV diseases respectively. The cumulative incidence rates of MACE and CV diseases were 9.23% and 11.31% respectively at 10-year follow-up. Compared to the control group the AN group had a significantly higher risk of MACE with an adjusted hazard ratio (aHR) 4.20 (95% confidence interval [CI] 3.20–5.52) and CV diseases (aHR 2.13 [95%

CI 1.73–2.62]). Among all cardiovascular events conduction disorder was the most common with an incidence of 5.29 per 1000 person-years and aHRs were the highest for cardiac arrest (aHR 18.20 [95% CI 3.02–109.65]) and hypotension (aHR 15.29 [95% CI 7.49–31.23]). Risks for both MACE and CV events were highest in the first 24 months after diagnosis and decreased rapidly with an increase in the follow-up duration. Conclusions: The elevated risks of MACE and CV outcomes in AN highlight the importance of monitoring CV malfunction. This study was supported by grants from the National Science and Technology Council Taiwan and Taipei Medical University.

Sunday May 05

### **Pragmatic Pilot Trial to Increase Suicide Screening in U.S. Primary Care Clinics**

*Rebecca Rossom MD MS*

Background: Individuals with opioid use disorder (OUD) are at increased risk of suicide (Rizk 2021). In a study implementing an electronic health record (EHR)-integrated clinical decision support (CDS) tool designed to prompt diagnosis and treatment of OUD in primary care a supplemental study incorporated decision support to guide structured assessment of suicide risk for patients with OUD. Methods: In this cluster-randomized controlled pragmatic pilot study 15 primary care clinics were randomized to receive or not receive a CDS tool that alerted clinicians when adults with OUD were estimated to have elevated suicide risk using machine-learning risk models. Clinicians were prompted to complete a Columbia Suicide Severity Rating Scale (CSSRS). Completion of at least one CSSRS in the 14 days following an eligible primary care visit was the primary outcome. Mental health

(MH) engagement was a secondary outcome and defined as a MH visit or a primary care visit associated with a MH diagnosis. MH engagement adequacy was determined by CSSRS score with higher scores requiring earlier follow-up; if the CSSRS was missing item 9 of the Patient Health Questionnaire (PHQ9) determined engagement adequacy. Linear mixed log-binomial regression models predicted the likelihoods of CSSRS completion and adequate MH engagement. Results: 115 primary care patients met inclusion criteria (69 intervention 46 control) with 57% women and a mean age of 39.3 years (SD 12.1). 81% were white and 83% were insured by Medicaid. Similar proportions of intervention and control patients (20.3% vs. 17.3%  $p=0.70$ ) completed CSSRSs within 14 days of the index visit. The proportion of patients with adequate MH engagement was 88% for intervention patients and 87% for control patients. The average number of days elapsed between visits was similar for control (19 days SD 30) and intervention (16 days SD 26) patients. Discussion: The intervention had no impact on suicide prevention process measures and there were relatively low rates of CSSRS completion in both intervention and control clinics. Somewhat reassuringly the vast majority of patients had adequate MH follow-up for their estimate level of acute suicide risk. Two patients died of what was classified by medical examiners as accidental opioid overdoses during the 3-12 months of follow-up a stark reminder of the high risk of mortality in this population with OUD and suicide risk (Bohnert 2019). That these deaths were classified as accidental rather than intentional is not reassuring. Historically most opioid overdoses have been considered accidental but more recent evidence suggests as many as 20-30% may be intentional and that the intentionality of

overdose is likely dimensional rather than categorical (Pergolizzi 2021). Regardless our findings suggest a more robust intervention is needed to increase suicide prevention process measures including use of the CSSRS.

Sunday May 05

### **Psychotherapy Engagement Before and After a Rapid Transition to Telehealth during COVID-19 for Older Adults with Dementia**

*Rebecca Rossom MD MS*

Objective: To understand the impact of the transition to telehealth during COVID-19 on psychotherapy visits for patients with dementia. Method: Retrospective study of older adults with dementia who had at least one psychotherapy visit in the 9 months before and after the onset of COVID-19 at 3 health systems. Care disruptions were gaps of 45+ days. Descriptive statistics and logistic mixed-effects models examined factors associated with care disruption. Results: During 18 months of observation 4953 patients with dementia made 19902 psychotherapy visits. Patients had a mean age of 77.8 years (SD 8.30) and nearly two-thirds were women. Seventy-six percent of patients self-identified as white 6% as Black 5% as Asian 2% as Hispanic and 2% with another race/ethnicity. Comorbid mental health conditions were common in this population of older adults with dementia with 64% of patients diagnosed with depression 55% with anxiety 8% with schizophrenia or other psychosis 14% with substance use disorder and 6% with bipolar disorder. Among the 19902 psychotherapy visits occurring during the observation period 11167 occurred prior to COVID-19 and 8735 occurred during COVID-19. Only 29% of all

total psychotherapy visits were associated with a disruption of more than 45 days during COVID-19 compared to 49% in the period before COVID-19. Relatedly the average number of days between visits was smaller in the period during COVID-19 (40.9 days SD 43.1) compared to the period before COVID-19 (83.8 days SD 95.0). Not surprisingly the percentage of psychotherapy visits conducted virtually during COVID-19 dwarfed the percentage before COVID-19 (32.3% vs 0.2%). In multilevel models adjusting for number of previous psychotherapy visits patient demographics and mental health conditions the odds of a patient with dementia experiencing a disruption in care during COVID-19 was 0.54 times the odds prior to COVID-19 (aOR 0.54 95% CI: 0.50 to 0.59). Discussion: Contrary to concerns that older adults would be reluctant to engage in virtual care patients with dementia had fewer disruptions in psychotherapy visits and fewer days between visits during COVID-19. These population-level findings are consistent with previous studies that involved people of all ages and showed improvement in psychotherapy adherence with virtual psychotherapy compared to in-person visits.(Eyllon et al. 2022; Mishkind et al. 2021) These findings help refute conceptions that older adults may not have the technical savvy to be able to navigate virtual visits. Our findings are consistent with research showing the gap in use of smartphones and computers narrowing between older and younger adults due to technology use increasing at a faster rate for older adults compared to other age groups (Faverio 2022). Our work suggests telehealth may be a viable option for patients with dementia.

Sunday May 05

## Readability of self-reported measures in restrictive eating disorders

*Asad Khan; Gwendolyn Mirzoyan; Kayla Lyon MD; Joseph Nickel*

Background: The consideration of readability in the development and validation of self-reported measures has often been overlooked. Numerous psychiatric questionnaires have been found to be above the suggested 6th grade reading level provided by the American Medical Association (AMA) and National Institutes of Health (NIH). The inability to understand questionnaires may lead patients with restrictive eating disorders to be undiagnosed for longer periods of time and experience increased mortality likelihood developmental delay and decreased bone and brain health. Although previous studies have analyzed readability in binge eating disorders there is limited data analyzing restrictive eating disorders. Methods: Measures in assessing restrictive eating disorders were selected from Schaefer's systematic review in eating disorders and a publicly available literature search. In total twenty-three patient health questionnaires were identified as meeting inclusion criteria and were evaluated for readability. The readability of each measure was analyzed via Gunning Fog Simple Measure of Gobbledygook (SMOG) FORCAST and Flesch Reading Ease Score. Measures with an average readability of greater than 6.00 were considered to be above the recommended reading level. As consistent with previous studies the readability of the item and instruction sections were analyzed separately. Measures without instructions were thus excluded from analyses involving instructions. Results: Twenty-one out of twenty-three measures (91%) had at least one component (instructions or items) written above the

recommended reading level. The instruction sections of all measures in our study had mean readabilities above the recommended sixth-grade level. The items sections of twenty out of twenty-three measures included in our study had mean readabilities above the recommended sixth-grade level. The mean reading level of the instructions and items sections were 9.80 (SD 1.79 Range 7.07 – 12.88) and 7.74 (SD 1.19 Range 5.39 – 10.88) respectively. A reading comprehension level of high school or above was required in seven out of twenty-three measures (30%). Conclusion: Many self-reported measures in restrictive eating disorders are written at grade levels that exceed AMA and NIH recommendations. Readability should be at the forefront of considerations regarding implementation in clinical or investigative settings particularly as it relates to disorders in restrictive eating. It is paramount to the reduction of health disparities across socioeconomic groups to ensure that self-report materials are utilizable across a broader spectrum of literacy.

Sunday May 05

### **Selected aspects of emotional functioning in convicted rape perpetrators**

*Robert Kowalczyk; Artur Daren; Katarzyna Waszynska*

Background: Rape perpetrators constitute a specific subgroup of inmates as rape is despised even among inmates. This report aimed to look into the psychological characteristics of convicted rape perpetrators as regards understanding and regulation of emotions impulsivity and empathy. The group of convicts was compared to a sample of people with no criminal record to assess significance of differences. Methods: The study group included 90 subjects

incarcerated in accordance with article 197 of the Penal Code in several penitentiaries in the region of Malopolska aged 17 to 60 years and 90 control subjects aged 21 to 60 years. The emotional functioning was assessed with Impulsivity-Venturesomeness-Empathy questionnaire (IVE) Difficulties in Emotion Regulation Scale (DERS) and Test for Understanding of Emotions (TRE). Results: The inmates had lower level of empathy than controls (IVE empathy score: mean= 13.8 (sd= 2.89) vs 15.1 (3.17)  $p=.033$ ) lower level of understanding of emotions (TRE score: 12.87 (5.05) vs 17.23 (3.67)  $p<.001$ ) and had more emotional problems (DERS: 121.53 (20.96) vs 109.57 (13.61)  $p=.030$ ) which showed up in specific areas including: lack of acceptance of emotional reactions (DERS: 13.33 (6.61) vs 9.77 (3.87)  $p=.046$ ) greater difficulty in controlling impulsive behaviors (DERS: 13.6 (5.73) vs 10.37 (3.29)  $p=.033$ ) greater limitation in strategies of emotion regulation (DERS: 17.6 (6.74) vs 13.33 (5.14)  $p=.007$ ). Conclusions: The results indicate that rape perpetrators have several limitations in reception understanding and regulation of emotions as compared to individuals without such criminal record. These limitations constitute potential goals for treatment directed toward reducing the risk of reoffending and developing a more pro-social orientation in order to better prepare such offenders for returning to the society.

Sunday May 05

### **Sweden vs. Finland – forensic psychiatric care and subsequent recidivism in violent crime**

*Lenka Sivak; Jonas Forsman; Ilkka Ojansuu; Markku Lähteenvuo*

Background The specifics of legal and medical treatment of mentally ill criminal



offenders vary across countries but perpetrators suffering from a severe mental disorder will commonly be consigned to psychiatric care. One of the main aims of such sanctions is to prevent relapse in crime. Here we explored differences between two Nordic countries – Sweden and Finland – with regard to violent recidivism after discharge from forensic psychiatric treatment.

**Methods** This retrospective cohort study compared violent recidivism rates in patients discharged from forensic psychiatric care in Sweden and Finland. The Swedish cohort consisted of all patients registered in the National Forensic Psychiatric Registry who were both sentenced and discharged between 2009 and 2019; data on criminal recidivism up until December 2019 including specific date and type of violent crime were extracted from the Swedish National Council for Crime Prevention’s crime registry. The Finnish cohort was made up of all forensic psychiatric patients released between 1999 and 2018 according to the archive of the National Institute for Health and Welfare. Information on recidivism up until 2019 was gathered from the database of the Institute of Criminology and Legal Policy at the University of Helsinki. Violent recidivism was presented both graphically as cumulative incidence curves and numerically as recidivism rates. Cox regression analyses based on relevant sociodemographic and criminological variables were performed in each dataset separately to calculate hazard ratios for different levels of variables.

**Results** The violent offending rate after discharge from treatment in Sweden was 3294 per 100000 person years (95% CI 2563–4169) compared to 1083 per 100000 person years (95% CI 799–1436) in Finland. The estimated cumulative incidence of violent crime was in the Swedish cohort 6.3% at 12 months (95% CI 4.3–8.3) 9.9% at 24 months (95% CI 7.3–

12.4) and 13.6% at 60 months (95% CI 10.3–16.7); and in the Finnish cohort 0.4% at 12 months (95% CI 0.1–1.6) 2.7% at 24 months (95% CI 1.6–4.7) and 7.6% at 60 months (95% CI 5.4–10.5). History of substance use disorder was associated with a higher risk of committing a violent crime in both Sweden (HR 2.8; 95% CI 1.6–4.8) and Finland (HR 2.22; 95% CI 1.12–4.41). Further higher age at discharge was associated with lower risk of recidivism in violent crime in both countries with a HR of 0.97 per year (95% CI 0.95–0.99) in Sweden and a HR of 0.94 per year (95% CI 0.91–0.97) in Finland.

**Conclusion** The rate of violent recidivism among former forensic psychiatric patients is higher in Sweden compared to Finland with the cumulative incidence at five years being nearly twice as high in the former country. In both countries history of substance use disorder was associated with a higher risk of recidivism and higher age at discharge with a lower recidivism risk.

Sunday May 05

### **The Emerging Neurodivergent Disorders in Eating Disorder: an Analysis of Real-Time Administrative Claims in the US**

*Dominic Moog BA; Kevin Xu M.D. M.P.H.; Yezhe Lin; Hui Xie MPH*

Introduction: Eating disorders (EDs) are known to have higher risk of different psychiatric illnesses. There is no real-time surveillance tracking the trend of its psychiatric comorbidities and particular knowledge gaps exist on the intersections of ED with neurodevelopmental disorders including autism spectrum disorder (ASD) and ADHD and gender dysphoria (GD) even as these psychiatric illnesses have received increased attention in recent years. Additionally there is a paucity of population-

level data on psychiatric comorbidities in ED before and after the COVID-19 pandemic which exacerbated ED symptoms hospitalizations and care seeking.

Objectives: We investigated the trends of psychiatric comorbidities in eating disorder over 2017-2022. Methods: Design setting and participants: We conducted a population-based retrospective cohort study of electronic health records (EHRs) between January 2017 and December 2022 using the TriNetX databases a federated multinational network of health care organizations with access to real-time EHRs with around 80% of data from the US. Trends of comorbidities in people with ED were assessed. Main outcomes and measures: 18 different psychiatric disorders The comparison group was identified using propensity score matching on a range of patient demographics and clinical characteristics. We assessed the ratios between two timeframes (2020-2022 vs. 2017-2019) by using logistic regression models. Results: Our sample consisted of 31153 people with ED in 2020-2022 cohort (6225 male [20.0%]; mean [SD] age 15.4 [4.7] years; 21201 White [68.1%]) and 17516 people in 2017-2019 cohort (4389 male [25.1%]; mean [SD] age 13.9 [4.9] years; 11960 White [68.3%]) before propensity score matching. The matched cohorts comprised 17232 patients in each group (2020-2022 group: 4269 males [24.8%]; mean [SD] age 14.1 [4.6] years; 11854 White [68.8%]; 2017-2019 group: 4216 males [24.5%]; mean [SD] age 14.1 [4.7] years; 11786 White [68.4%]). Compared to 2017-2019 the 2020-2022 cohort had significant increased rates of GAD (adjusted odds ratio [aOR][95% CI] 1.112 [1.067 1.176] P<0.001) PTSD (1.201 [1.116 1.292] P<0.001) ADHD (1.160 [1.148 1.288] P<0.001) ASD (1.248 [1.163 1.340] P<0.001) GD (1.618 [1.421 1.842] P<0.001) and nicotine use disorders (1.308 [1.122 1.524]

P<0.001) 1 year following the ED diagnosis. After excluding existing comorbidities new onset rates of ADHD (1.248 [1.119 1.393] P<0.001) and GD (1.418 [1.110 1.811] P=0.005) were significantly higher over years. Conclusions: Neurodivergent disorders are emerging in ED individuals in real-world settings. Screening neurodevelopmental disorders and gender dysphoria in patients with eating disorders is warranted to enhance diagnostic accuracy and comprehensive care. We hope that this information will assist mental health professionals in providing holistic psychiatric care to patients with ED which is historically lacking.

Sunday May 05

### **The Relationship between body mass index and neuropsychiatric symptom in Alzheimer's disease dementia: A perspective on sex and small vessel disease**

*Seockjun Min; Seughoon Lee*

Background: Previous studies reported the link between body mass index (BMI) and Alzheimer's disease (AD) dementia particularly associating lower BMI in older age with increased beta-amyloid protein deposition—a crucial pathology in Alzheimer's disease. Limited studies have explored the impact of BMI on Behavioral and Psychological Symptoms in Dementia (BPSD) with scarce attention to sex-specific effects or small vessel disease (SVD) in brain. This study aims to investigate the correlation between BMI and BPSD in older adults with AD dementia considering sex and the degree of SVD differences. Methods: This retrospective analysis included 246 subjects aged between 55 and 90 meeting the criteria for probable or possible AD according to NINCDS-ADRDA with a clinical dementia

rating (CDR) greater than or equal to 0.5 at Myongji Hospital Cognitive Clinic from March 2010 to October 2021. Variables such as BMI geriatric depression scale (GDS) neuropsychiatric inventory (NPI) and brain MRI Fazekas score as well as demographics were examined. BMI was categorized into four groups based on the Asia-Pacific classification of National Heart Lung and Blood Institute (NHLBI). A one-way analysis of variance (ANOVA) was conducted to assess differences in mean NPI scores across BMI groups and linear regression analysis was used to evaluate the association of BMI with NPI scores based on sex or Fazekas scores. Results: The results demonstrated a significant negative correlation between NPI and BMI ( $r=-0.256$   $p<.001$ ) with five NPI behavioral domains also exhibiting significant negative correlations with BMI. Stratifying BMI into groups revealed a significant difference in NPI total scores ( $F=4.171$   $p=0.01$  and  $b=-0.221$   $p<.001$  by linear regression) indicating lower BMI associated with high NPI scores. Subgroup analyses based on sex revealed a significant negative association between BMI and total NPI scores in females ( $b=-0.209$   $p=0.007$ ) but not in males ( $b=-0.262$   $p=0.150$ ). Subgroup analysis with Fazekas scores In the group with a score of 2 or more lower BMI was significantly associated only with nightmare behavior scores among NPI domains ( $r=-0.548$   $p=0.005$ ). However no NPI domain was associated with BMI in the group with a Fazekas score less than 1. Conclusion: Among older adults with AD dementia a negative correlation between BMI and neuropsychiatric symptoms was observed especially in females. More attention to BMI is needed in older adults with AD dementia with a high burden of cerebral small vessel disease.

Sunday May 05

## **Unlocking Healing Potential: Exploring the Transformative Power of Self-Compassion in Eating Disorder Recovery"**

*Jayasudha Gude M.D.; Ulrick Vieux*

Background: Eating disorders affect at least 9% of the populations with the onset among majority of the population during their adolescent years. The purpose of this study was to explore how self-compassion can play a pivotal role in the recovery process and if it has any positive impact in the management of individuals with eating disorders. Methods: We searched PubMed using the keywords "self-compassion" and "eating disorders OR Binge eating disorder OR Anorexia Nervosa OR Avoidant restrictive Food Intake disorder OR Body Dissatisfaction OR Body Image OR Body Shaming". The search yielded a total of 156 articles and final 12 studies were included in the review that has studied the role of self-compassion in eating disorder psychopathology or symptomatology. The inclusion criteria included randomized controlled trials that have used some form of compassion focused therapy intervention. Improvement of eating disorder symptomatology was studied pre and post compassion focused therapy. Exclusion criteria include any acute eating disorder symptoms psychiatric illnesses requiring inpatient hospitalizations. Primary outcome is measured using questionnaires post self-compassion strategies. Data was extracted using the PRISMA guidelines and analyzed. Results: Of the twelve studies six studies have studied the role of self-compassion in eating disorders three have studied in Binge Eating disorder one in Anorexia Nervosa and two in the body dissatisfaction/body shame. It was found that all the intervention such as compassion focused therapy body imagery rescripting brief self-compassion intervention

and video intervention have resulted in improvement in the eating disorder symptomatology self-compassion and fear of self-compassion factors compared to groups without the intervention. There was a significant improvement in the Subjective Units of State Body Shame scores (SUBS) before and after the intervention. The self-compassion intervention also has had greater acceptability. Overall there was a decrease in the eating psychopathological symptoms binge eating symptoms self-criticism and psychological distress. Conclusion: Current studies have shown that self-compassion intervention can play a major role in decreasing eating disorder symptomatology. However more clinical trials with higher power are needed to unlock the complete potential of the self-compassion.

Sunday May 05

### **Are Cultural Psychiatrists Supporting Religions by Preventing Suicide"? An Invalid Question for a Valid Ongoing Cultural Dilemmas"**

*Lama Muhammad M.D.*

Background: There is but one truly serious philosophical problem and that is suicide. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy. All the rest — whether or not the world has three dimensions whether the mind has nine or twelve categories — comes afterward. These are games; one must first answer." Albert Camus. It is estimated that more than 700000 people globally die by suicide every year(1). However this number might be way beyond the reality given the stigma of psychiatric illness that leads to the misclassification of many suicide cases and the effects of the political and economic

environment on the surveillance systems(2). While suicide ideations are severe symptoms of psychiatric illnesses that need to be treated there are some suicide cases that raise ethical dilemmas and support Camus's philosophical question above. Existentialism explores the issue of human existence in a philosophical way. Existential angst is a common concept in many psychiatric encounters thus not covered in the Diagnostic and Statistical Manual of Mental Disorders and underestimated in many psychiatric encounters. Method: The presenter will introduce the concept of "existential angst" as a possible significant risk factor for suicide. The presenter will describe using clinical examples some areas psychiatry hasn't explored yet and discuss the application of a philosophical style to the psychiatric interview. Results: Case 1: A 56-year-old female has been diagnosed with depression related to a general medical condition (Breast cancer with bone and liver metastases). The patient verbalized suicidal ideation with intent and plan stating that "the road to treat my medical diagnosis is rough and I don't want to take it; I prefer to have dignity and end my life in my own way". An ethical consult was requested. Case 2: Iraqi American 40 y/o male patient was admitted for the diagnosis of treatment-resistant major depressive disorder. Patient reports that he comes from a culture that believes in reincarnation. As he didn't like any of his life events he decided to end it so he could have the opportunity to come back in a different body and other circumstances. The patient was admitted to the psychiatric inpatient ward for further evaluation. Case 3: A 48 y/o Syrian female with anxiety reports to her psychiatrist that she doesn't care if she is dead as "this life is a farce and it is shameful to human beings to live more than 50 years". When the psychiatrist tried to

discuss the psychiatric history the patient replied: "Why are you trying to make my cultural beliefs as pathological symptoms?". A lengthy discussion about Existentialism took place in regular psychiatric follow-ups. Conclusion: Optimal enhancement of the understanding of Existentialism is necessary; while we don't have definitive black-or-white answers in many suicide scenarios this knowledge helps treat pathological psychiatric symptoms. "

Sunday May 05

### **Association between Eating Disorders Body Image Ideals and Nutritional Status in Female Adolescents from Santiago Chile.**

*Carolina Milles; Fernanda Cabello; Arturo Grau*

**Abstract** Background: Eating disorders (EDs) have a multifactorial etiology with a prevalence of 1-3% during adolescence. Factors associated with their onset include female gender internalization of the thin body ideal pressure to be thin body dissatisfaction and elevated body mass index (BMI). In Chile there are limited studies on the influence of sociocultural determinants and the risk of EDs amongst children and adolescents. This study aims to investigate the prevalence of ED risk and its association with body image ideals and nutritional status in a group of adolescent females from Santiago. Methods: This descriptive cross-sectional study includes students aged between 12 and 19 years obtained using non-random sampling. A questionnaire regarding sociodemographic variables was applied along with two self-administered instruments: the Eating Disorder Diagnostic Scale (EDDS) to assess the risk of an ED and the Questionnaire of Sociocultural Influences on the Aesthetic Body Shape Model (CIMEC 26) which

evaluates perceived pressure from cultural and social factors to lose weight. Weight and height measurements were taken to calculate nutritional status based on BMI and age. Results: A total of 141 females participated with a mean age of 15.39 years. In this cohort the prevalence of ED risk was 43.26% with an average age of 15.67 years 42.62% of which being between the ages of 15 and 16. Among the total cohort 39% showed risk of either bulimia nervosa or subthreshold bulimia. The percentage of surveyed adolescents that perceived themselves as susceptible to sociocultural influences to lose weight was 51.77% with this percentage rising to 77.04% in the ED risk group showing a statistically significant association between these variables ( $p < 0.001$ ). Among adolescents without ED risk 42.5% were overweight or obese while in the ED risk group the same nutritional level was observed in 55.73% with no statistically significant association. Conclusions: A high risk of developing an eating disorder was identified in the studied adolescent population and there is a statistically significant association between ED risk and the perception of susceptibility to sociocultural influences for weight loss. However the association of nutritional status with ED risk was not statistically significant. This study provides evidence for the development of preventive strategies aimed at reducing the prevalence of eating disorders focusing on social and environmental factors influencing the body image of the adolescent population.

Sunday May 05

### **Beyond Words: Deciphering Linguistic and Cultural Layers in Refugee Mental Healthcare**

*Bazif Bala; Mirabelle Mattar*



**Background:** The intensifying global refugee crisis has brought to the forefront a multitude of challenges with mental healthcare access being paramount among them. In addressing these challenges mental health professionals and policymakers often encounter a confluence of issues stemming from linguistic and cultural differences. Refugees each arriving from unique socio-cultural backgrounds bring with them diverse perceptions of mental well-being illness and treatment. This intricate interplay of language and cultural beliefs remains a critical yet relatively under-investigated domain warranting deeper exploration to ensure that care provided aligns with refugees' lived experiences and worldviews. **Methods:** We scoured multiple academic databases including PubMed PsycINFO and WebofScience to identify articles that specifically addressed the intersection of language culture and mental healthcare for refugees. Criteria for inclusion encompassed peer-reviewed studies qualitative and quantitative in nature published in the past decade. Through a rigorous process involving initial screening of titles and abstracts followed by a full-text review we distilled our search to 20 seminal articles. Data extraction was then conducted focusing on key themes methodologies findings and implications. The cumulative insights from these articles were subsequently synthesized culminating in the creation of a comprehensive conceptual framework. **Findings:** The framework highlights three central dimensions:

**Linguistic Discordance:** Beyond mere language differences variations exist in terminologies and idioms of distress that refugees utilize to express their mental health challenges in dialects and local vernaculars. Often these might not have direct counterparts in Western psychiatric terminologies.

**Cultural Perceptions Embedded in Language:** The mental health narratives of refugees are significantly influenced by their cultural backdrops. Language in this context serves as a medium through which varying cultural perceptions of mental health symptoms recognition or even stigma are conveyed.

**Systemic Language Challenges:** Institutional barriers such as sparse interpreters in healthcare settings or non-native language mental health resources further aggravate the linguistic rift. **Conclusion:** Language serves as more than just a communicative tool; it is deeply interwoven with cultural perceptions and beliefs. In the realm of refugee mental healthcare understanding this dual facet is paramount. Our framework accentuates the imperative for interventions that are not only linguistically but also culturally attuned ensuring genuine comprehension and empathy towards refugees' mental health narratives.

Sunday May 05

### **Co-Morbidity of Anorexia Nervosa and Schizophrenia: A Review of the Literature Clinical Case Finding and Recommendations for Inpatient Management**

*Claire Koljack M.D.; Amy Acosta; Claire Holderness M.D.*

**Background:** Symptoms of anorexia nervosa (AN) are more frequently seen in patients with schizophrenia compared with the general population yet are underdiagnosed and often go undetected in populations with primary psychotic disorders. This has potentially deleterious consequences given that AN has the highest mortality rate of all psychiatric diagnoses and is also one of the most difficult diagnoses to treat. For these reasons it is

important that clinicians can both detect and comfortably treat primary eating disorders in patients with severe mental illness. Recognition and co-treatment are particularly important in inpatient settings where clinicians are more likely to encounter patients who are severely underweight. Our goal of this literature review and case finding is to provide guidance for diagnostic clarification and inpatient management of a population that is particularly difficult to treat and requires a unique and targeted management approach. Methods: We reviewed literature regarding the comorbidity of anorexia nervosa and schizophrenia by searching PubMed and Google Scholar for citations between the years 2005-2023 using the keywords “psychotic disorder” “psychosis” “schizophrenia” “disordered eating” “restrictive eating” “anorexia nervosa” “serious mental illness” and “comorbidity.” We briefly review the presentation and management of a 74-year-old patient of the co-authors’ who was admitted to an acute psychiatric unit with decompensated schizophrenia diagnosed with anorexia nervosa while there and received treatment for both disorders. Results: Most of the literature that examines eating disorders in populations with schizophrenia has focused on binge eating disorders. There are fewer investigations that consider the cooccurrence of schizophrenia and AN. This is likely due to the increased appetite seen in patients who are treated with antipsychotic medications. Moreover AN and schizophrenia can be difficult to distinguish often due to difficulties that accompany differentiating reduced food intake secondary to mood and psychotic symptoms from those that can be attributed to a primary eating disorder. Conclusion: There is a need for greater awareness and diagnostic sophistication when approaching the patient with

schizophrenia who presents with restrictive eating; however there is limited literature on the co-occurrence of the disorders. This likely results in underdiagnosis of AN in patients with schizophrenia despite the high mortality rate of AN compared to other psychiatric disorders. We recommend a more frequent and careful screening for eating disorders in patients with psychotic disorders who present with low weight. Patients with psychotic disorders who present with disordered eating should receive a specialized treatment approach from a multidisciplinary team of medical and mental health professionals as well as dietitians.

Sunday May 05

### **Concordance in Admission Decisions Between Correctional and Hospital Clinicians**

*Jamie Fried; Catherine Mier M.D.*

Background: When a correctional mental health clinician deems an inmate in their care in need of hospitalization they refer the patient to a psychiatric services-equipped hospital for evaluation. A hospital-based psychiatrist or clinician with admitting privileges then makes the final disposition decision. While inter-rater agreement among emergency room psychiatrists has been highly studied no previous research has explored concordance between correctional mental health professionals and hospital-based clinicians regarding disposition decisions. Similarly there is limited research assessing agreement between physician evaluators and other mental health professionals (PhD LCSW NP LPsych). This study tracks referrals for admission evaluation from New York City’s jails to a public hospital to assess the extent of agreement among providers as to whether a

patient requires admission. Methods: We extracted patient-level data from the records of 185 referrals made by jail-based mental health professionals to a public hospital with forensic psychiatric inpatient capacity over a seven-month period in 2023. Data collected included the referring clinician's training type time elapsed since the patient's last encounter with a clinician authorized to prescribe medications time since their last encounter with any mental health professional and the disposition decision made at the hospital. Descriptive statistics were used to assess percentage of referrals resulting in admission and the mean square contingency coefficient was calculated to determine association between the referring provider's training and the eventual disposition. Results: 63.6% (117/185) of all patients referred to the hospital were admitted. 70.8% (17/24) of patients referred by a psychiatrist were admitted while 62.1% (100/161) of referrals from other disciplines led to admission. There was little to no association between patients referred by psychiatrists and those admitted ( $\phi = 0.0538$ ). The number of days since a patient's last encounter with a psychiatrist did not significantly differ between admitted and discharged patients ( $p = 0.22$ ). Conclusions: Correctional mental health professionals exhibit generally high agreement rates with hospital-based psychiatrists similar to inter-rater agreement rates observed in other contexts. Correctional mental health professionals with psychiatric residency training (MD DO) demonstrate slightly higher rates of agreement than other providers (PhD LCSW NP); however this difference is not statistically significant. More research is required to determine the relationship between training level decision concordance. These findings may prove valuable to psychiatric providers at carceral institutions

attempting to establishing standard protocols for hospital referrals.

Sunday May 05

### **Discontinuation of Chronic Prescribed Benzodiazepine in Geriatric Patient Followed by Catatonia**

*Lana Abdole M.D.; Maya Baiyasi; Hadley Cameron-Carter*

There are no clear guidelines for tapering benzodiazepines in the geriatric population. It is known that medication changes in the geriatric population should be done slowly due to increased sensitivity to changes in dose. For many patients they are tapered off benzodiazepines over months while for others a quicker titration is done. In some inpatient settings they are tapered off the medication as quickly as a week. Coming up with a plan for tapering benzodiazepines needs to consider patient tolerance motivation and risks of medical complications like seizures. Moreover there have been a few cases of catatonia following benzodiazepine withdrawal. Given catatonia is often underdiagnosed and missed it is important to monitor patient symptoms and maintain a broad differential when there are concerns. In this poster we present a case where an elderly man had been mistaken to have a primary psychotic disorder but ultimately it was determined he was catatonic after being tapered off his chronically prescribed benzodiazepine medication a month prior to his initial presentation. We will discuss the importance of maintaining a broad differential diagnosis recommendations for slow titration for benzodiazepines in the geriatric population and risk for catatonia as a consequence of weaning chronic benzodiazepines too quickly.

Sunday May 05

**Does school attendance prevent anxiety and depression? A literature review on the effects of school closures on children from marginalized communities**

*Omar Alzein M.D.; Zerimar Ramirez Lopez; Frozan Walyzada; Arham Ahmad M.D.*

Background: The COVID-19 pandemic has had far-reaching and inequitable consequences on the general welfare of students encountering varying forms of virtual learning environments. Studies report children of Hispanic non-Hispanic black and multiracial backgrounds encountered virtual instruction with a greater prevalence and for a longer time frame than non-Hispanic white peers. Further studies demonstrated decreased access to in-person learning environments as lockdown restrictions eased in 2021 for the same marginalized populations compared to their non-Hispanic white peers. Evidence from varying studies concludes that psychiatric symptoms particularly anxiety and depressive symptoms increased during the pandemic for school-aged children during school closures and lockdowns. The concerning impact of these experiences falling more significantly on under-represented groups is investigated in our literature review. Objective: The aim of this article is to comprehensively review and provide perspectives from existing literature regarding the impact of school closures and remote learning on the levels of experienced anxiety and depressive symptoms in children from underrepresented minority groups during the COVID-19 pandemic. Methods: During this study we carried out a systematic literature review based on the PRISMA model on 3 databases: PubMed Embase and PsycINFO. Search terms included COVID-19

School Closure Mental Health underprivileged anxiety and depression. Papers published from 2021 to 2023 were included in this literature review and collected studies were organized thematically. Exclusion criteria included studies pertaining to populations outside the allotted age range [1-18 years of age] previous literature reviews or duplicate entries from varying databases. Results: An initial search resulted in a total of 25 articles and 8 met the inclusion criteria. Of the returned articles a total of 4 articles were duplicates 5 were previous literature reviews and 8 studied subjects outside the age range. The articles included in our review studied children aged 5 to 18 with a total number of subjects totaling 24990. Preliminary analysis indicates a statistically significant increase in symptoms of anxiety or depression experienced by children from marginalized communities in post-pandemic school closures compared to pre-pandemic levels. Conclusion: The findings of this literature review suggest that under-represented minority groups were exposed to more prevalent and longer-lasting periods of remote learning and school closures. In the mentioned setting students were more likely to experience depressive and anxiety symptoms exhibiting more hyperactivity peer problems and overall behavioral difficulties. These findings indicate a disproportionate negative consequence of pandemic lockdowns in school-aged children from under-represented minority groups.

Sunday May 05

**ECT Ethical Dilemma & State Laws - What are the State Laws for a Patient with Chronic Major Depressive Disorder Suicidal Ideation & Catatonia?**

*Chiedozie Ofoma M.D.; Glen Oriaifo M.D.*

NIH and FDA have both deemed electroconvulsive therapy (ECT) to be a safe and effective treatment for patients with acute suicidality and catatonia. Here we present a patient with a major depressive episode with mood-congruent psychotic features suicidal ideation and catatonia. The patient was treated with lorazepam for catatonia and safely discharged. But months later the patient presented again with similar symptoms. The patient did not want to pursue ECT despite her worsening catatonic symptoms. Her capacity to make decisions was questioned. Two psychiatrists agreed that her psychotic and depressive symptoms may be impairing her judgment. It was unclear if the patient understood her diagnosis prognosis and treatment with ECT. The ethical dilemma here is should the patient's autonomy should be respected or whether beneficence nonmaleficence and justice should be practiced. There are no consistent U.S. laws around treating the patient with ECT when the patient is deteriorating and there is availability for life-saving treatment. This leaves individual states to regulate ECT. Some states have detailed restrictions on use other states have no regulation at all. This variation applies to multiple areas of ECT practice including who can receive it who can provide informed consent who can prescribe or perform ECT and what administrative requirements (eg fees reporting) must be met by ECT practitioners. In this case temporary commitment and judicial authorization to treat with ECT were attained. Just after four ECT treatments the patient was seen smiling with a significant decrease in paranoia and delusions. Her catatonic symptoms and depressive symptoms decreased dramatically. The patient is followed on an outpatient basis and is receiving maintenance ECT treatment. In summary

there is a need for guidelines for physicians or state laws for ECT in patients with catatonia acute suicidality and major depressive disorder. Variations in laws and delays in treatment can worsen patient condition leading to poor prognosis. Additionally the longer the patient suffers from psychopathology the more difficult it is to treat. Our proposal is two psychiatrists and a judge's order should allow ECT treatment in a catatonic patient. This could be implemented across states reducing liability and patient harm. In addition our case also adds to the literature that patients without the capacity to refuse ECT may benefit from involuntary ECT treatments.

Sunday May 05

### **Gender Affirming Surgeries (GAS) and their Impact on Quality of Life and Gender Dysphoria: A Systematic Review.**

*Jatminderpal Bhela M.D.; Maliha Ansari M.B.B.S; Kaushal Shah M.D. M.P.H; Shailesh Jain*

Background: Gender dysphoria (GD) a profound discomfort with one's birth gender significantly impacts the quality of life (QoL) through factors such as poor relationships mental health issues and low self-esteem. This review aims to elucidate the impact of Gender Affirming Surgeries (GAS) on QoL and GD among U.S. individuals. Methods: A literature search across databases like PubMed Web of Science and APA PsycInfo from February 2017 to 2023 identified potential studies. Of the initial 864 11 met the inclusion criteria focusing on GD QoL and GAS. Results: An average of 182.1 participants were included per study with a mean age of 34.7. Males (gender assigned at birth) averaged 37.32 years while females averaged 30.27. Affective disorders anxiety



disorders and substance use disorders were the most prevalent disorders among GD individuals undergoing GAS. Various surgeries were studied with facial feminization surgery top (chest) and bottom (genitalia) surgeries being predominant. Significant improvements in self-worth psychological and social well-being and satisfaction with physical and sexual appearance post-surgery were noted enhancing overall QoL and reducing GD. Post-surgical evaluations across studies indicated significant improvements in GD. Following facial feminizing surgery 86% of participants reported improved GD-related mental health conditions. Increased GAS interventions corresponded with more favorable Transgender Congruence and Body Image Satisfaction Scale scores. Masculinizing top surgery showed a dramatic improvement in the Chest Dysphoria Scale score from 29.6 pre-surgery to 3.3 post-surgery. Additionally post penile inversion vaginoplasty 77% of patients reported resolution in GD. Post-surgery complications included wound issues hematoma infections scarring and sensory losses among others. Conclusions: Gender identity remains a complex domain. We suggest further research into the long-term effects of gender affirmation surgery and self-acceptance. Despite increased access data on quality of life after the procedure is limited.

Sunday May 05

### **Impact of COVID-19 on mental health related emergency department visits in the Central Valley**

*Katayun Fethat; Chelsey Preciado; Francisco Ibarra*

Background: COVID-19's economic recession negatively impacted many Americans' mental health and created new barriers for those

with pre-existing mental health and substance use disorders. As demonstrated in several studies lower household incomes are associated with higher rates of mental health disorders and suicide attempts. California's Central Valley ranks among the highest in mental illness and poverty rates in the state. Furthermore this area demonstrates a threefold higher hospitalization rate for mental health related disorders among individuals of lower socioeconomic status. Despite these findings the region is below the national average in the number of licensed mental health professionals. Our study aimed to quantify COVID-19's impact on emergency department (ED) visits for mental health disorders in the Central Valley. Methods: This retrospective study was conducted at two institutions within the Community Health System. The primary endpoint was the incidence of patients presenting to the ED with one of the following mental health disorders: anxiety depression substance abuse or stress reactions. Patients were included if the mental health disorder was listed as a primary diagnosis or chief complaint in the electronic medical record. The incidence of mental health disorders was determined by dividing the total number of mental health disorder ED visits by the total number of ED visits. The incidence of mental disorders was compared across the following three time periods: Pre-COVID-19 (Pre-19 12/21/2018 - 03/18/2020) During COVID-19 (D-19 03/19/2020 - 06/15/2021) and Post-COVID-19 (Post-19 06/16/2021 - 09/12/2022). A sub-group analysis was performed to identify the incidence rates according to pre-specified age groups ethnicity and gender. All study measures and procedures were approved by the local Institutional Review Board and there are no conflicts of interest to report. Results: Anxiety was the most common mental disorder across all three

time periods (67.7% 68.6% 65.9% respectively) followed by substance use disorder (21.6% 20.2% 20.8% respectively). There was a 13.6% increase in the number of total mental health disorder ED visits across the Pre-19 and Post-19 time periods. Depression demonstrated the largest Pre-19 to Post-19 increase (44.3%) followed by anxiety (4.3%). Among ethnicities depression rates increased most in Hispanics (85.1%) and American Indians (75%). Depression rates increased more in males (61.3%) than females (28%) across the Pre-19 to Post-19 time periods. Among age groups depression rates increased most in those less than 18 and greater than 64 years of age (266.7% and 76.9% respectively). Conclusions: ED visits for mental health disorders in the Central Valley increased following COVID-19. Our findings highlight the need to increase the number of providers and resources available to those with mental health disorders in the Central Valley.

Sunday May 05

### **Interstellar Interventions to Create Cosmic Calm**

*Andrew Correll M.D.; Terry Correll D.O.*

Benzodiazepines such as lorazepam are the standard of care for the abortion of acute trauma-induced epileptic events and are one of the first-line treatments of acute psychogenic agitation. However lorazepam viewed by many as a gold-standard benzodiazepine necessitates refrigeration and restocking every 60 days which can be a challenge in austere environments where refrigeration is at a premium or not available at all. Currently NASA employs intramuscular diazepam injections in this role. Concerns exist though for the erratic absorption of diazepam via intramuscular route and its

metabolites have an extended half-life leading to increased risk of respiratory depression and prolonged sedation. Furthermore recent data suggests that midazolam is superior in two core measures as a treatment for status epilepticus: efficacy of time to onset and efficacy of seizure abortion. Midazolam has also been shown effective in other domains more particular to missions in space: shelf life and flexible routes of delivery. Previously long-term stability data and temperature tolerability data for midazolam were not available rendering diazepam the more reasonable option. Considering updated pharmaceutical data and recent trials it is demonstrated that stable and versatile midazolam is superior to other benzodiazepines in yielding safe timely termination of undifferentiated acute agitation and status epilepticus and is particularly well-suited for use in challenging environments such as space.

Sunday May 05

### **Medical Student Perceptions of Eating Disorders**

*Lillian Carter; Carrie McAdams*

Background: Patients with eating disorders (EDs) can present to clinicians in many different psychiatric and medical settings. As such teaching medical students to become effective clinicians for EDs is imperative. Limited research has considered how medical students approach patients with EDs a first step towards improving medical curriculum and care for this vulnerable patient population. Vignette learning is common in medical education and can identify gaps in training as well as student biases about different types of patients and disorders. Because EDs are widely referenced in the media and social media misinformation

and stigma about EDs is also common. Identification of attitudes perceptions and gaps in competencies in approaching patients with EDs is a first step towards improving medical education about EDs. Methods: Twelve mental health scenarios were designed in the form of short vignettes. These scenarios included combinations of psychiatric conditions. The combinations were designed to allow two major comparisons of responses across different mental health scenarios. First ED presentations (anorexia nervosa bulimia nervosa and binge eating disorder) were compared to other psychiatric conditions (depression anxiety and substance use disorder). Second each type of psychiatric disorder was presented in both a social and a clinical setting allowing comparison of whether attitudes perceptions and competencies differed with context. A survey utilizing these vignettes was distributed to all medical students at one university to evaluate their attitudes perceptions and confidence in managing each scenario. Two-tailed T-tests were used to compare Likert scale ratings. Results: Thirty medical students responded to the survey request. Students felt significantly less competent in treating eating disorders compared to treating other mental health conditions such as anxiety depression and alcohol use disorder ( $p < 0.001$ ). Students expected that individuals with eating disorders were less likely to recover from their condition than individuals with non-eating disorder conditions such as anxiety depression and alcohol use disorder ( $p = 0.006$ ). All psychiatric conditions described were viewed as more serious in clinical settings compared to social settings ( $p = 0.04$ ). Conclusion: Medical student perceptions of patients have the ability to affect the care that they provide. The results revealed some areas where

medical education can be improved. Curriculum changes focused on improving student competence in treating EDs may be beneficial. Education focused on severity and prognosis may need to be emphasized. The vignettes designed in this study captured student attitudes perception and competencies and could be applied as an educational tool.

Sunday May 05

### **Overcoming Cravings: Naltrexone Utility in Binge Eating Disorder**

*Vitaly Chernish M.D.; Zoe Reasons M.D.*

**Abstract** Background: Binge-eating disorder (BED) as defined in the fifth edition text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) is characterized by recurrent episodes of consuming large amounts of food in a short period of time accompanied by a sense of lack of control and distress. While the condition is not classified as a substance-related or addictive disorder the opioid system and dopamine reward pathway in the brain are implicated in food intake and craving. We present a case of a 53-year-old non-obese woman with BED who achieved remission with naltrexone 50mg qd after trials of fluoxetine topiramate and bupropion. Through this case study we attempt to ascertain the relationship between opioid antagonists such as naltrexone and food craving and binge eating behavior as well as their potential role in treating BED. Methods: A literature review was conducted through PubMed Embase and Scopus. We broadened the search criteria for “binge eating disorder” to include “binge eating behavior” “food addiction” and “compulsive eating” as well as “bulimia” and “eating disorder not otherwise specified (NOS)” to account for the evolution

of the diagnosis over the years. Search terms for “naltrexone” also included “opioid antagonist” and “narcotic antagonist.” Results: Reviews and studies from both animal and human models suggest a role for blocking the reward processing pathway through the opioid receptor system to target craving and feeding behaviors. Conclusion: Opioid antagonist monotherapy such as naltrexone may be a reasonable treatment option for patients with BED who fail or have contraindications to other typical first-line therapies (SSRIs bupropion lisdexamfetamine).

Sunday May 05

### **Overview of Efficacy and Clinical Outcomes of JBCT in Treatment of Serious Mental Illnesses in the US Jail System.**

*Pegah Yakhchalian M.D.; Abdolreza Saadabadi M.D.; Mandeep Bagga M.D.; Shashvat Patel; Gursimran Kehal D.O.*

Forensic populations in the United States are increasing driven largely by a rise in individuals determined to be Incompetent to Stand Trial (IST). Across most states including California the number of mentally ill inmates awaiting competency restoration has increased dramatically in recent years. Traditionally competency restoration has taken place in state hospitals but incompetent inmates often experience a significant wait for state hospital beds because of the rising demand for beds in such facilities. The resulting waitlists which range from days to months have led to states being held in contempt of court for violating limits placed on how long incompetent defendants can be held in jail. Therefore alternatives to state hospitalization for IST patients have been developed including jail-based competency (JBCT) restoration

programs. JBCT programs provide restoration services in county jails rather than in psychiatric hospitals. California the first state to substantially advance the principle of least restrictive treatment through its Lanterman-Petris-Short Act in 1969 with strict procedural safeguards required for involuntary hospitalization ironically also allows the involuntary medication of jail detainees through its Welfare and Institutions Code. As explained by Lamb and colleagues: The inpatient unit [of the Los Angeles County Central Men's Jail] is designated (under the California Welfare and Institutions Code) to house and treat both voluntary and involuntary patients and is thus empowered to administer medications involuntarily when the patient is considered a danger to himself or others or is gravely disabled Discrepancies between jail regulations and patients' rights are weighed in their resolution in favor of jail regulations. A systematic review was conducted by searching electronic databases and hand-searching the reference lists of relevant studies. Studies that investigated jail-based competency restoration programs for inmates deemed incompetent to stand trial in California were included. Outcome measures included competency restoration rates and length of stay in jail. Four studies met the inclusion criteria comprising 594 inmates. The meta-analysis showed that jail-based competency restoration programs were associated with higher rates of competency restoration (pooled odds ratio = 3.87 95% CI = 1.50-9.97 p = .005) and shorter length of stay in jail (pooled standardized mean difference = -0.50 95% CI = -0.98 to -0.02 p = .04) compared to standard care. Jail-based competency restoration programs are a promising approach for improving the quality of mental health care for inmates with incompetency to stand trial in California. These programs have been shown to increase

competency restoration rates and reduce the length of stay in jail. However further research is needed to evaluate these programs' long-term outcomes and cost-effectiveness.

Sunday May 05

### **Prison Policy Autocastration and Gender Affirming Care**

*Nicholas Jascewsky D.O.; Nayan Bhatia M.D.*

Background: The US prison system houses an estimated 4890 gender dysphoric patients leading to a paucity of information regarding care<sup>1</sup>. Prior to 2022 New Jersey carceral placement was determined by state law which utilizes gender identity. Following two inmate impregnations carceral placement has been determined by Prison Rape Elimination Act of 2003 (PREA) which utilizes sex assigned at birth. Case series presentations: 36-Year-old trans-female inmate with gender dysphoria presents with penile lacerations and rectal insertion of a razor. Psychiatry consulted for conditional self-harm in the setting of gender dysphoria. The patient planned to perform auto-penectomy. Patient was previously denied gender-affirming hormones and therapies and states “I’m not suicidal I just want treatment.” 33-Year-old trans-female inmate with gender dysphoria presents with self-harm involving groin and scrotum lacerations. Psychiatry consulted for capacity evaluation following treatment denial. Patient has capacity. She desires penectomy and vaginoplasty while denying any intervention that will maintain the viability of her penis. Patient states “If I wind up dying because I don’t get a repair it is better than being forced to live like I have been.” 28-Year-old trans-female inmate with gender dysphoria presents with self-harm involving scrotum lacerations and rectal insertion of a blade.

Behavioral health evaluated for self-harm. This was the 3rd episode of self-injurious behavior related to their gender dysphoria to access gender affirming surgery. 37-Year-old trans-female inmate with gender dysphoria presents with self-harm involving scrotum lacerations. Psychiatry consulted for capacity evaluation following treatment denial. Patient has capacity. She denies all interventions that impeded the acceleration of her path toward gender affirming bottom surgery or the necrotic loss of her external genitalia. She stated the decision was between “slitting her scrotum or her wrists”. Discussion: Changes in policy have led to increased incidence of self-harming and autocastration in the incarcerated gender dysphoric population. Access to gender-affirming care is medically necessary for the incarcerated population when appropriate. Denial of care violates the patient’s 8th amendment rights<sup>2</sup>. There are jurisdictions with provisions for gender affirming care which show decreased likelihood of autocastration events occurring<sup>3</sup>. Training programs are available which improve knowledge of transgender policies and lead to greater overall satisfaction<sup>4</sup>. Resources are available that discuss the treatment of inmates with gender dysphoria including standard of care medical necessity eligibility for SRS and post-SRS considerations<sup>5</sup>. Transgender care in the prison setting should follow evidence and ethically informed approach<sup>6</sup>. This case series report contributes to a small but growing literature on providing care for gender dysphoria in the carceral setting.

Sunday May 05

### **Psychiatric advance directives: blueprints for preserving patient autonomy**



*Yingcheng Xu MD; Kelly Yang M.D.; Liliya Gershengoren*

**Background:** Respecting patients' autonomy is a cornerstone of ethical medical care and is a principle that often comes under threat in psychiatric care settings. This is especially the case when patients are incapacitated or unwilling to engage in treatment that is deemed clinically necessary. Psychiatric Advance Directives (PADs) offer a legal framework for patients to express their treatment preferences in advance helping to preserve their autonomy even in situations where decision-making capacity may be compromised. **Methods:** This narrative review summarizes literature on the use and impact of PADs on promoting patient autonomy in psychiatric care. A comprehensive literature review was conducted on available sources discussing the use of PADs including peer-reviewed articles legal documents and official guidelines. Review of literature focuses on understanding the history of PADs how they are created and used and their effect on patient experiences. Challenges in implementing PADs and ways to improve their use in clinical settings are examined. **Results:** PADs have been legally recognized for decades in the United States but have low rates of use among patients and providers. Research demonstrates that PADs can facilitate shared decision-making enhance treatment adherence and improve patient satisfaction. Furthermore PADs have been linked to a reduced use of coercive interventions in psychiatric care settings. Structured facilitation and the involvement of peer specialists have been shown to improve the adoption of PADs among patients and providers. The discourse surrounding PADs is replete with intricate ethical and legal quandaries. This review illustrates the ways in which PADs can either mitigate or exacerbate

existing disparities in treatment and reflects on the philosophical debates regarding decision-making capacity in patients with psychiatric illness. **Conclusion:** The utilization of PADs is a valuable means to promote patient autonomy in psychiatric care by promoting communication between patients their providers and their social supports. PADs may empower patients to actively engage in their treatment planning improve the therapeutic alliance reduce the use of coercive treatment practices and ultimately transform the overall quality of psychiatric care received.

Sunday May 05

### **Racial and Ethnic Diversity of Psychiatry residents and fellows from 2012-2022**

*Shigeru Kaneki; Sophia Fioramonti-Gorchow; Olanrewaju Olukitibi; Mill Etienne*

**Background:** The 2021 National Survey of Drug Use and Health revealed that Black and Hispanic populations with mental illness were less likely to receive any mental health services (39.4% and 36.1% respectively) than White populations (52.4%). This may be explained by the lack of racial concordance between patients and physicians. According to the 2020 US Census Black and African American individuals comprise 12.4% of the population while Hispanic individuals comprise 18.7%. However only 5.99% and 9.16% of US medical residents are of Black and Hispanic origin. This heralds the importance of addressing the disparity in physicians from demographics underrepresented in medicine (URM) as defined by the Licensing Committee on Medical Education (LCME). The primary objective of this study was to analyze the racial and ethnic diversity among the US Psychiatry residents (n=7353) using data from

the Accreditation Council for Graduate Medical Education (ACGME) from 2012 to 2022 and the US Census. Methods: ACGME data from 2012 to 2022 was quantitatively analyzed to determine the racial and ethnic diversity in US psychiatry residency programs. US data on race ethnicity and gender of Psychiatry residents were extracted. A Chi-Square test was utilized to compare the observed ACGME data and expected values using the 2010 and 2020 census. A linear regression test compared changes in diversity over time. Microsoft Excel and GraphPad Prism were used for data collection and analysis. Results: Chi square analysis demonstrated that Black and African American and Hispanics were significantly underrepresented in psychiatry residency programs compared to the United States Demographic ( $p < 0.001$ ) data. These significant differences were found within all subspecialties within psychiatry ( $p < 0.05$ ). Though there has been a steady increase in psychiatry residents from 2012 to 2022 ( $n = 5034$  to  $n = 7353$ ) regression analysis demonstrates the psychiatric residents from demographics URM have not followed the same trends ( $p < 0.001$ ). Summary of all years analyzed demonstrated that out of all psychiatry residents 6.25% were Black ( $n = 3711/59416$ ) and 6.90% were Hispanic ( $n = 4102/59416$ ). Conclusion: A significant disparity was found between US population demographics and US Psychiatry residents. Even with the increased emphasis on diversifying the field of psychiatry and increased care of underserved communities the field of psychiatry has not demonstrated a significant increase in residents from demographics URM. This suggests the need for further upstream efforts in diversifying the field of medicine. Steps may include enhanced mentorship and exposure for K-12 URM students promoting the pipeline of URM

entering college and medical school entering psychiatry residency and various psychiatric fellowship programs. This additional focus may be a major contributor in addressing the existing health inequity.

Sunday May 05

### **Resident Comfort and Preparedness to Care for Sexual and Gender Minority Patients: Efficacy of an Interactive Trainee-led Case-based Didactic**

*Jason Christopher D.O. J.D.; Lauren Kaczka-Weiss; Emma Banasiak M.D.*

Background: The number of self-identified LGBTQ+ Americans has increased significantly in recent years resulting in a broader need for providers to exhibit appropriate cultural competence. Recent research has shown that psychiatry residency programs may insufficiently prepare trainees for this. Our study seeks to assess and improve psychiatry resident and fellow ("resident") knowledge and comfort in discussing sexual orientation and gender identity ("SOGI") with patients. Methods: A one-hour didactic session was presented to residents from two suburban academic medical centers including a case-based discussion focusing on relevant terminology psychosocial determinants of health and strategies to solicit SOGI information. Efficacy was measured using the Lesbian Gay Bisexual and Transgender Development of Clinical Skills Scale ("LGBT-DOCSS") a self-rating 7-point Likert scale previously employed in related literature. The survey was administered to all participants before and after the didactic session. LGBT-DOCSS data was utilized to assess Basic Knowledge (awareness of health disparities) Clinical Preparedness (training clinical experience assessment skills competence) and

Attitudinal Awareness (explicit bias and prejudice) among residents. A cumulative link mixed effects model for ordinal regression was performed comparing the pre- and post-didactic survey results. Results: The analysis included data from 19 residents who completed both surveys and 27 residents who completed the pre-didactic survey only. A wide range of knowledge and comfort was reported. Pre-didactic data showed that 74% of polled residents generally reported they could adequately identify health disparities experienced by LGBTQ+ patients and 62% could identify institutional barriers preventing these patients from utilizing health services. Post-didactic results suggest that participants felt better informed overall about specific topics including institutional barriers prohibiting transgender patients from utilizing healthcare services (mean LGBT-DOCSS score difference +0.8  $p=0.19$ ) and those preventing LGB patients generally (+0.5  $p=0.37$ ). Residents completing both surveys reported higher overall knowledge at outset but this difference was not statistically significant (+0.4  $p=0.15$ ). Data regarding clinical preparedness suggests a more substantial impact. Overall residents reported feeling adequately prepared to care for LGB patients after the didactic (+0.7  $p=0.12$ ) but continued to report feeling unprepared to care for transgender patients (+0.3  $p=0.61$ ). Interestingly they reported feeling less competent to assess both transgender (-0.2  $p=0.65$ ) and LGB patients generally (-0.3  $p=0.59$ ) after the didactic. Conclusion: Results indicate that many residents had experience treating LGBTQ+ patients but did not always feel prepared to do so. After our didactic most reported feeling more knowledgeable and better prepared to discuss SOGI and assess these patients.

Sunday May 05

## **Sociodemographic Predictors of Attendance in an Outpatient Psychiatric Setting**

*Aneri Patel BS MBA; Drishti Patel BS MBA; Lauren Dori BS MBA*

**Introduction** A significant challenge to delivering outpatient psychiatric care is the high rate of patient no-shows for scheduled appointments. Inconsistent follow-up can exacerbate psychiatric conditions highlighting the importance of identifying patient characteristics that may predict high no-show rates. There is a lack of consensus on which patient demographics and socioeconomic characteristics in an outpatient psychiatric setting present with greater likelihood of no-shows. This study explored sociodemographic predictors of attendance at a large outpatient psychiatry clinic in the Northeast. **Methods** A retrospective chart-review of 331 patients seeking outpatient between 2017-2019 was conducted. Attendance for each patient was calculated as the ratio of attended sessions to total number of scheduled sessions during the initial 6 months of treatment. Sociodemographic data were collected through patient registration and self-report treatment questionnaires. Nonparametric attendance data was analyzed using the Kruskal-Wallis and Mann-Whitney post-hoc test to examine the association between patients' sociodemographic variables and treatment attendance. **Results** The average attendance rate for the patients in our sample was 73.9%. Our findings indicated that ethnicity ( $H(5)=19.97$   $p<0.01$ ) employment status ( $H(1)=13.84$   $p<0.001$ ) and educational attainment ( $H(6)=18.18$   $p<0.01$ ) were all significantly associated with attendance rate. Post-hoc analyses revealed that patients who identified as Black/African

American ( $z=-2.52$   $p<0.05$ ) and Hispanic ( $z=-3.76$   $p<0.001$ ) had significantly higher no-show rates relative to Caucasian patients. Moreover patients without a high school diploma had low attendance rates compared to those with a four-year college degree ( $z=-3.37$   $p<0.01$ ). Finally unemployment was associated with a higher no-show rate relative to part-time ( $z=-3.39$   $p<0.001$ ) or full-time ( $z=-3.31$   $p<0.001$ ) employed patients.

**Conclusion** Increasing awareness of the sociodemographic predictors linked to attendance rates can help providers identify at risk patients and contribute to a deeper understanding of the barriers to treatment attendance. This can pave the way for targeted interventions such as for patients with decreased education and employment status to mitigate these barriers ultimately leading to improved attendance and better treatment outcomes.

Sunday May 05

### **The Assessment of Non-Suicidal Self-Injury in Juvenile Correctional Facilities**

*Rose Tusa M.D.; Rahn Bailey M.D.*

**Abstract** Background: Non-suicidal self-injury (NSSI) is a deliberate and self-directed act resulting in the destruction of one's own body. While it is not done with suicidal intent it is strong predictor of suicidal behavior in the future. It occurs mostly in adolescence with incarcerated juveniles having increased psychosocial risk factors. Methods: A systemic review of literature between 1980 and 2022 was completed to understand the methods utilized to measure NSSI in juvenile correctional facilities. The databases used were PubMed Criminal Justice Abstracts PsycINFO and Embase. Search terms were "NSSI or non-suicidal self injury or non suicidal self harm" and "adole\* or juvenile"

and "incar\* or prison\* or detain\*." A total of 451 articles were reviewed for inclusionary and exclusionary criteria. After review 22 articles were deemed appropriate to retain for review. Results: Review of literature found that multiple methods were utilized in assessing NSSI in juvenile correctional facilities. The more common methods of assessment were standardized assessments (41%) unstandardized assessments (32%) and chart reviews/incident reports (18%).

Although the largest group was standardized assessments the specific assessments used varied widely in specific questionnaires and the type of information collected.

**Conclusion:** Results from this review found that studies varied in how NSSI was assessed and measured. Future studies are needed to determine how to best assess and monitor for NSSI in juvenile correctional facilities. This is especially important as this population is at increased risk due to age and psychosocial factors. Additionally consistent measurement of this type of data can improve research on related topics such as outcomes of certain interventions for NSSI.

Sunday May 05

### **The Influence of Food Addiction on Momentary Mechanisms in Binge Eating**

*Shirley Li BA; Rachel Kalan; Alexandro Smith BA; Tyler Mason PhD; Kathryn Smith PhD*

**Background:** Food addiction (FA) and binge eating are both marked by loss of control over consumption continued excess use despite negative consequences and repeated failed attempts to cut down on consumption. There is ongoing debate regarding if FA is a distinct concept from eating disorders characterized by binge eating. The present study examined whether FA severity moderated momentary associations between hypothesized

antecedents and subsequent binge eating. Methods: Participants completed the Yale Food Addiction Scale 2.0 (YFAS) to assess for FA symptoms. Ecological momentary assessment (EMA) was used to examine temporal patterns in experiences and behaviors over a 10-day protocol with up to 5 daily prompts. At signal-contingent EMA prompts surveys assessed antecedents (affect impulsivity food cue exposure craving eating expectancies and preoccupation with thoughts of food). At eating episodes participants completed EMA surveys assessing binge-eating symptoms. We used generalized linear mixed models to examine main effects (within- and between-person components) in addition to two-way interactions between YFAS as predictors of subsequent binge-eating symptoms measured at the next EMA signals. Results: 49 participants (mean age=34.9±12.1 77.1% cisgender female 55.1% non-Hispanic White mean BMI=33.7±8.1 kg/m<sup>2</sup>) completed the EMA protocol and were included in analyses. Participants completed 2345 EMA surveys with an average EMA compliance of 74.3%. There were 1358 eating episodes. YFAS was a significant predictor of binge eating across all models. Impulsivity was positively associated with binge eating for both between- (B=0.22 SE=0.05 p<0.001) and within-person effects (B=0.11 SE=0.03 p<0.001). Food cue exposure was also positively associated with binge eating for both between- and within-person effects (p=0.049 p<0.001 respectively). YFAS scores interacted with within-person impulsivity (B=-0.01 SE<0.01 p=0.035) and food cue exposure (B=-0.01 SE<0.01 p=0.001) to predict binge eating. The relationship between momentary impulsivity and subsequent binge eating was stronger among participants with lower but not higher YFAS scores. Similarly the relationship between momentary food cue exposure was

positive among those with lower YFAS scores. No interactions were observed between YFAS scores and other antecedents predicting binge eating. There were no significant within- or between-person effects for affect. Conclusions: Higher FA was associated with greater binge eating and FA severity moderated momentary associations between impulsivity and food cue exposure and subsequent binge eating. Preoccupation with thoughts of food craving and eating expectancy were associated with elevated binge eating but these associations did not differ based on FA. This data provided important insight into FA symptoms as a marker of binge eating including the understanding of maintenance mechanisms underlying this diagnosis.

Sunday May 05

### **The psychiatric crisis team in the Netherlands is reachable 24/7 !**

*Stefan Streitz*

The psychiatric crisis team in the Netherland is 24/7 reachable for the patients ! A psychiatric doctor and a nurse are a duo-team which could see patient with psychiatric symptoms in 30-60 minutes in the Hospital ambulance of at home! This works very effective to prevents hospital treatments. If necessary a special police officer can join the team. So people with psychiatric problems can be kept outside the hospital and can get a very sufficient ambulant service and mostly treatment for some days of weeks. We have data over our crisis work which shows what happens in the crisis team 24/7 very precisely. This opportunity to see patients very early is very efficient and helps to limit psychiatric crisis behavior and development . We are sure that the ambulant acute treatment service with the crisis team is one



of the best ways in the world to limit psychiatric illness right from the begin when it starts.

Sunday May 05

### **Unfolding GenZ Identity: Exploring Non-Binary Gender Identification in Youth with Borderline Personality Traits. A Case Series with Literature Review**

*Chenique Teixeira M.D.; Marilena Adames-Jennings; Natasha Kasulis M.D.; Urenna Anyeji M.D.; Daanish Khorasani*

Background: Over the years there has been a significant rise in individuals openly identifying as non-binary challenging the traditional binary concept of gender identity. This emergence not only applies to the general child and adolescent population (CAP) but notably those with borderline personality traits (BPT). The empirical literature on BPT has paid little attention to this aspect of identity formation. As gender-diverse individuals become more prominent in clinical settings there is a growing demand for improved guidance on delivering suitable mental health care. Methods: Our case series used a qualitative approach to ascertain severity of BPT & patients' gender identification within our CAP on the inpatient psychiatric unit. Data was collected on their identified pronouns sexual orientation trauma history self-injurious behavior suicidality measures scored on McLean's instrument & subjective accounts of identity confusion. We employed a literature review using Google Scholar MESH filter on PubMed & Mount Sinai's Levy Library with search terms: "borderline personality" "children" "adolescents" "gender identity" & "non-binary" using combinations of up to 3 terms at a time. We found 35 articles published between the years of 2019 to 2023 & 21 were

excluded based on age and diagnoses other than BPD or BPT. Results: There is very little literature exploring the interplay between youth with BPT and non-binary gender identification. Furthermore even less outlining the impact of non-traditional gender identity on individual experiences of mental health disorders psychological distress and trajectories of recovery. Existing literature focuses on binary populations citing increased risk of depression neuroses suicidal behaviors medication misuse decreased likelihood of seeking help from social supports internalization and greater tendencies towards hopelessness in binary females. In contrast increased substance use involuntary hospitalization & externalization were found among binary males. Our case series consisted of a sample of 5 patients with BPT who presented on the child & adolescent inpatient unit in July 2023. The patients range from 11 to 16 years old 4 of female sex 1 of male sex 3 self-reported as non-binary and 2 as binary. Interestingly we found that non-binary gender identification was associated with protective factors such as improved psychiatric symptomatology and increased functioning on the unit. Conclusions: We consider that non-binary gender may act as a protective factor in the psychiatric & therapeutic realm in the CAP with BPT. This phenomenon needs to be further explored as it impacts diagnostic and treatment approaches. We suggest that clinicians thoroughly assess gender identity sexual orientation psychosocial factors and embrace a gender-affirming approach in the treatment course of the CAP with BPT. We aim to encourage more research into gender variability in this specific population.

Sunday May 05

## **Veracity Enhancement Using Non-Invasive Brain Stimulation: A Systematic Review**

*Alice Hou; Abram Brummett; Shahrukh Naseer*

For decades non-invasive brain stimulation (NIBS) techniques like Transcranial Magnetic Stimulation (TMS) and Transcranial direct-current stimulation (tDCS) have been used in clinical settings as forms of neuromodulatory treatment for depression and other neurodivergent disorders. In recent years there has been increased research in utilizing the non-invasive techniques to enhance cognition beyond normal baseline including enhancements in language memory moral and veracity. Due to the lack of systematic reviews in the growing field of veracity enhancement we conducted a summative overview of current research studying the impacts of NIBS on veracity or tendency towards truthfulness under simulated scenarios. A systemic review was conducted with the use of PubMed Web of Science PsycARTICLES and the Cochrane Library databases. Papers were searched using key terms (TMS OR transcranial magnetic stimulation) AND (deception OR verac\* OR lie OR truth\* OR dishonest\*)" for TMS and "(tDCS OR transcranial direct current stimulation) AND (deception OR verac\* OR lie OR truth\* OR dishonest\*)" for tDCS across all databases. For each study data related to the study type groups/conditions sample size age gender ratio brain localization stimulation intensity and duration as well as significant findings were extracted and analyzed by two independent reviewers. A total of 12 papers utilizing tDCS and 10 papers utilizing TMS to study veracity enhancement were found to meet the inclusion criteria. Studies selected were randomized controlled trials (RCTs) and involved a total of 1165 participants (60.8% female 39.2% male)

averaging 25.2 years old. Utilizing tDCS anodal stimulation of the anterior prefrontal cortex (aPFC) temporoparietal junction (TPJ) and ventrolateral prefrontal cortex (VLPFC) were all found to increase the participants' veracity. Stimulation of the dorsolateral prefrontal cortex (DLPFC) was found to increase veracity in 4 studies but boost deception in 2 other studies. In the last 2 studies stimulating the inferior frontal sulcus (IFS) and inferior frontal cortex (IFC) were found to be inconclusive. Utilizing TMS many studies researched differences between the left vs right DLPFC with follow-up studies focusing on the latter. Inhibition of the right DLPFC resulted in participants exhibiting more veracity while stimulation of the right DLPFC resulted in more deception. Based on this systematic review NIBS techniques show ability to pose distinct influences on veracity enhancement with stimulation of different brain regions generating opposing effects. However due to the small number of original articles on this topic as well as occasional inconsistent results substantial further research as well as a more standardized methodology is still needed."

Sunday May 05

### **A national virtual education program for professionals caring for adults with intellectual and developmental disabilities at the time of COVID-19**

*Yona Lunsky PhD; Anupam Thakur*

Background: The COVID-19 pandemic has significantly impacted the mental health of adults with intellectual and developmental disabilities (IDD). During this period of uncertainty and need for up-to-date information related to the pandemic various virtual training programs demonstrated the role of tele-mentoring programs like Project

Extension for Community Health Outcomes (Project ECHO) to address this need share best practices and create virtual communities of practice. The aim of this paper is to describe the educational evaluation of the National ECHO AIDD a program for services providers working with adults with IDD during COVID-19. The goal of this Canada-wide virtual training program was to build service provider capacity in supporting the mental health needs of adults with IDD during this time. Methods: The program consisted of six sessions each lasting 1.5-hours conducted weekly over two cycles. Each session included didactic teaching by hub team members COVID-19 news updates wellness check-ins and a brief mindfulness activity followed by a 30 to 45 minute case-based discussion. The hub structure had an inter-professional collaborative approach to team expertise. Those with lived experience were an integral part of the content experts' hub. Pre- post- and follow-up evaluation data were collected. Results: Care providers from health and social care sectors (n=230) participated in the program. Of those 61 completed surveys at all three time points (pre- post- and follow up). High levels of engagement satisfaction (overall satisfaction score of 4.36 out of 5) were reported. Self-efficacy ratings improved from pre (66.38 ± 15.62) to post (77.58 ± 13.39) and maintained at eight-week follow-up (77.45 ± 13.54); improvement from pre- to post- was significant (p<.0001). Discussion: Exposure to National ECHO AIDD educational intervention led to improvement in perceived competencies. This study also shows the valuable role of people with lived experience in fostering adaptive expertise in learners. As a part of the Community of Practice participants appreciated the opportunity to relate to colleagues across the country and learn from each other. The outreach and

scalability of using the ECHO model supports the feasibility in building a national virtual Community of Practice for IDD service providers connecting geographically dispersed areas. Future studies should focus on studying the impact of these programs on the health outcomes of people with IDD.

Sunday May 05

### **A virtual learning community to promote child and adolescent mental health in a global setting: From Penn State Project ECHO to the Philippines**

*Jasmin Lagman M.D.; Ma Pilar Malata; Ramnarine Boodoo M.B.B.S.; Ailyn Diaz; Jessica Beiler*

Background: A national emergency in child and adolescent mental health was declared in the United States in 2021. However this mental health crisis is not only limited in this country but is a global problem. In the Western Pacific region the Philippines has the third highest rate of mental health problems and mental illness is the third most common disability in this country. Currently there are only about 60 Child and Adolescent Psychiatrists in the Philippines and the lack of professionals working in children's mental health exacerbates the country's mental health crisis. To address this gap a training for Philippine physicians and other professionals working with the pediatric population was done to increase their knowledge of child and adolescent mental health through ECHO at Penn State in collaboration with West Visayas State University (WVSU). This is the Philippines' first Project ECHO on child and adolescent mental health. Methods: Project ECHO is a tele-mentoring activity and uses a model where there is knowledge-sharing among network members led by expert specialist teams mentoring multiple

community providers. Unlike telemedicine where outside specialists assume patient care Project ECHO is a guided learning community aimed at practice improvement: providers receive mentoring and feedback on de-identified patient cases to strengthen their skillset and retain responsibility for their patients. The biweekly virtual training from May 11 to August 17 2023 consisted of eight 60-minute sessions on child/adolescent mental health topics which included anxiety disorders depression suicide risk assessment in youth LGBTQI-related issues ADHD autism spectrum disorder aggression and mood dysregulation and internet/gaming addiction. Participants were recruited by our WVSU partners. Sessions consisted of a 15-minute mental health lecture given by expert speakers followed by a participant case presentation with the participants and experts discussing and giving recommendations. Results: There were 131 active participants from 30 provinces in the Philippines representing primary care (42.4%) psychiatry (30.46%) psychology (5.96%) public health (3.97%) and school-based (17.21%) providers. Psychiatry pediatrics and family medicine residents also participated and presented cases. Registrants reported that 41% of their patients are children and adolescents and 36% have mental or behavioral health issues. Results showed that 90% of participants would use what they learned in their work 98% reported an increase in knowledge 95% reported an increased ability to care for their patients and 90% reported a decreased sense of professional isolation. Conclusion: There is an extreme shortage of Child and Adolescent Psychiatrists worldwide. Project ECHO can be a successful tool in leveraging expertise to increase the knowledge of physicians and other healthcare

professionals to support healthcare providers in the Philippines.

Sunday May 05

### **Association between Cortical Thickness and Slow Wave Activity in Cognitive Normal Older Adults: Preliminary Results**

*Luisa Figueredo; Ricardo Osorio*

**Background** Sleep is a vital biological process that supports various cognitive and physiological functions. One of the most essential components Slow-wave sleep (SWS) is critical for diverse physiological processes and its decline has been observed in normal aging. Cortical Thickness (CT) has also been correlated with normal aging and specific differences among gender and racial health disparities. This study investigates the relationship between cortical thinning and slow-wave activity (SWA) and its differences among gender and race. **Methods** Healthy patients selected for the study (ages >40) were recruited from the community as part of studies on normal brain aging. Polysomnograms were scored in a 30-second epoch according to standard criteria (AASM) for sleep and EEG arousals. Total sleep time (TST) and percent time spent in the wake non-REM stage 1 (NREM 1) non-REM stage 2 (NREM 2) non-REM stage 3 (NREM 3 – slow wave sleep) and REM sleep were determined. Certified technicians performed all polysomnograms for a whole night in the NYU/Mount Sinai Sleep Disorders Center. Magnetic resonance imaging (MRI) T1-weighted anatomical images were obtained using the MPRAGE protocol. Cortical segmentation was performed using FreeSurfer. Statistical analysis was performed using linear regression models. Multiple regression for stratification was performed after log-normalized CT and t-test

analysis for comparison and confirmed by the post-hoc Bonferroni test. GraphPad Prism version 10.0.0 analysis was performed for MacOS GraphPad Software Boston Massachusetts USA [www.graphpad.com](http://www.graphpad.com)".

**Results** The study included 118 participants (36 men 84 women) with an age mean of 65.6 (47-77). SWA decreased with age ( $p=0.003$  Fig1A) while the cortical thickness increased; however the effect is minimal ( $p=0.3$  Fig1B). There's a significant association between whole-brain CT and SWA in the unadjusted model ( $p=0.001$  Fig1C) and the adjusted model by age sex and APOE4 status ( $p=0.003$  Fig1D). The mPFC CT showed the same tendency (unadjusted  $p=0.001$  and adjusted  $p=0.003$  Fig1E-F). Differences by gender in all brain CT and SWA showed no differences (Fig 2A-B). However individual relationships between SWA and CT was significant for females only showing no impact in the general association (Fig2C-E). Race did not showed significant differences either between all the variables or effects in the multiple regression (Fig 2F-H).

**Conclusions** Our results suggest that while aging the loss of cortical thickness can be associated with a reduction in the SWA independently of the brain region; this association is independent of gender and race. Future directions will focus on SWA in the first third of the night (When it is expected to peak) and cognitive changes during the follow-ups including CCI and GDS scores to the model. \*\*Race: 1: Non-Hispanic White 2: African American 3: Other NA: Not reported

Sunday May 05

### **Association of Oxidative Stress-Induced Damage to RNA and Mortality in Individuals with Psychiatric Illness**

*Anders Jorgensen MD PhD; Henrik Enghusen Poulsen*

**IMPORTANCE:** All-cause mortality and the risk for age-related medical disease is increased in psychiatric illness (PI) but the underlying biological mechanisms are not known. Oxidative stress on nucleic acids (DNA and RNA) (NA-OXS) is a molecular driver of aging per se and a potential pathophysiological mechanism in a range of age-related disorders. **OBJECTIVE:** To study the levels of markers of NA-OXS in a large cohort of community-dwelling individuals with and without PI and to evaluate their association to prospective all-cause mortality. **DESIGN SETTING AND PARTICIPANTS:** We used a combined cohort of participants from two population-based health studies: The Danish General Suburban Population Study (inclusion 2010-2013) and non-diabetic control participants from the Vejle Diabetes Biobank study (inclusion 2007-2010). Individual history of PI was characterized using register data on psychiatric diagnoses and use of psychotropic drugs before the baseline examination. Urinary markers of systemic RNA (8-oxo-78-dihydroguanosine (8-oxoGuo)) and DNA (8-oxo-78-dihydro-2'-deoxyguanosine (8-oxodG)) damage from oxidation were measured by ultra-performance liquid chromatography-tandem mass spectrometry. Cox proportional hazard regression models were applied for survival analyses using register-based all-cause mortality updated to May 2023. **EXPOSURE:** History of PI. **MAIN OUTCOME AND MEASURE:** Mortality risk according to PI status and 8-oxoGuo/8-oxodG excretion level. **RESULTS:** A total of 7728 individuals were included (3983 (51.5%) female mean age 58.6 (11.9) years) of which 3095 (40.0%) had a history of PI. Baseline 8-oxoGuo was statistically significantly higher in PI than in



N-PI (2.4±1.2 vs. 2.2±0.9 nmol/mmol p<0.0001) whereas 8-oxodG was not. All-cause mortality was higher in the PI vs the N-PI group (HR=1.44 95% CI [1.27;1.64] p<0.001) and increased sequentially with each increasing tertile of 8-oxoGuo excretion in both groups to an almost doubled risk in the PI/high 8-oxoGuo group compared to the N-PI/low 8-oxoGuo reference group (HR=1.99 95% CI [1.58;2.52] p<0.001). These results persisted after adjustment for a range of potential confounders and in a sensitivity-analysis stratified for sex. **CONCLUSIONS AND RELEVANCE:** This study establishes systemic oxidative stress-induced damage to RNA as a potential causal mechanism in the accelerated aging observed in psychiatric disorders and urinary 8-oxoGuo as a potentially useful marker of mortality risk in individuals with PI.

Sunday May 05

### **Cognitive outcomes following antidepressant pharmacotherapy for late-life depression: a systematic review and meta-analysis**

*Nicholas Ainsworth MD FRCPC; Tulip Marawi; Marta Maslej; Argvrios Perivolaris; Benoit Mulsant*

Background: Major depressive disorder in older adults (late-life depression; LLD) is a common condition with a prevalence of approximately 10% in adults over age 60. LLD is frequently associated with cognitive impairment and increases the risk of developing dementia. When present in the setting of LLD cognitive impairment may also decrease the likelihood of response to antidepressants. However there is not yet a definitive answer in the literature regarding whether antidepressant treatment improves cognitive functioning in individuals with LLD.

Objective: To evaluate the impact of antidepressant treatment on cognitive function across multiple domains in individuals with LLD. Methods: We conducted a systematic review and meta-analysis of prospective studies of antidepressant pharmacotherapy for adults age ≥50 (or mean age ≥65) with MDD. Participants with bipolar disorder psychotic depression dementia or neurologic disease were excluded. We searched the MEDLINE/Pubmed EMBASE and PsycINFO databases from inception to December 31 2022. The primary outcome was score change on cognitive tests between baseline and post-treatment. Cognitive tests were classified according to the primary cognitive domain tested (global cognition executive function verbal memory/learning processing speed attention/working memory and verbal fluency). Secondary outcomes included effects of specific medications and associations between changes in depressive symptoms and cognitive test scores. All eligible studies were synthesized descriptively and a random-effects model was used to pool results for meta-analysis. Results: Twenty-two studies were included reporting on cognitive outcomes in 3019 participants with LLD. Thirteen of 19 studies showed improvement in ≥1 cognitive test following antidepressant pharmacotherapy with the most robust evidence for memory/learning (8 of 16) and processing speed (7 of 10) domains and for sertraline (all 5 studies). Improvement in depressive symptoms was associated with improvement in cognitive test scores in 6 of 7 relevant studies. Meta-analysis (8 studies n=493) demonstrated a statistically significant overall improvement in memory/learning (5 studies; effect-size 0.254 {95% CI 0.103 – 0.404} SE 0.077 p = 0.001); no statistically significant change was seen in other cognitive

domains. The evaluated risk of publication bias was low. Conclusion: Antidepressant pharmacotherapy of LLD appears to improve certain domains of cognitive function particularly memory/learning. This effect may be mediated by improvement in depressive symptoms. Further studies comparing pharmacotherapy with non-treatment controls are needed.

Sunday May 05

### **Complex and Diverse Neuropsychiatric and Psychosocial Sequelae of Traumatic Brain Injury: A Case Series**

*Karina Sophia Narciso M.D. D.S.B.P.P.; Roda Tessa Estrella M.D.; Clyde Garreth Dee M.D.*

Background: Traumatic Brain Injury (TBI) leads to the disturbance of brain structure and function due to the biomechanical forces of a primary injury and/or the neurodegeneration borne from a secondary injury leading to long-term consequences at the molecular cellular and biochemical levels. This led us to report 3 cases of TBI that resulted in different neuropsychiatric presentations and multi-faceted courses of treatment and recovery. Methods and Case Series: Three adult patients with a diagnosis of TBI admitted to a tertiary hospital from 2022 to 2023 were included in the case series. The first case reports a male farmer of low education with neurocognitive issues following a motorcycle accident which was complicated by osteomyelitis and questions regarding his capacity to consent and decide. The second case illustrates the psychosocial and occupational challenges of a priest presenting with pathological laughter memory lapses and uncoordinated muscle movements after having fallen and hitting his head on a hard surface. The third case describes the therapeutic challenges of a

male fisherman who had a vehicular accident as he presented with episodes of mania that were difficult to manage. This occurred in the background of the patient having a history of substance abuse unrecognized bipolar disorder hypersensitivity to anticonvulsant medications and traumatized family. Common to all three patients were that they had non-penetrating head injuries the duration of loss of consciousness after the head injury was less than 30 minutes the Glasgow Coma Scale (GCS) was between 12-15 upon admission brain imaging did not show a midline shift the TBI was not classified as severe and they did not require any form of cranial surgery. They were primarily managed through medications (antipsychotics anticonvulsants and mood stabilizers) therapy and behavioral modifications. Careful planning to achieve mid-term and long-term goals of management before their discharge from the hospital to take into account the impact of the sub-acute and chronic phase of TBI. Conclusion: Due to the diverse mechanisms through which TBI can occur it is anticipated that each case will exhibit unique characteristics and will warrant individualized forms of treatment. Aside from the injury itself it is essential to factor in the considerable impact TBI places on the patient and the community when planning their treatment

Sunday May 05

### **Difference between patients with Mild Behavioral Impairment and Late-Onset Psychiatric Disorders who referred to psychogeriatric services**

*Camilla Elefante; Giulio Emilio Brancati; Giulio Perugi*

Background: Psychiatric disorders with an onset late in life have been repeatedly

associated with cognitive changes. Recently Mild Behavioral Impairment (MBI) has been associated with a greater incidence of Mild Cognitive Impairment (MCI) and dementia. MBI is a construct that describes the emergence at ? 50 years of age of sustained and impactful neuropsychiatric symptoms (NPSs) that may be early manifestations of cognitive decline. MBI is described as the emergence of meaningful and persistent NPSs occurring from the age of 50 representing a change from the individual's usual behavior or personality. Our study aims to investigate the prevalence and differentiating features between MBI patients with respect to patients with late-onset psychiatric disorders. Results: A total of 81 patients who were referred to our psychogeriatric outpatient service for mental care were recruited. The severity of mental illness was evaluated by means of the Clinical Global Impression Severity scale the severity of psychopathology was evaluated by means of the Brief Psychiatric Rating Scale (BPRS) and overall functioning was evaluated by means of the Global Assessment of Functioning scale. The sample included 40 (49%) patients diagnosed with MBI and 41 (51%) patients with late-onset psychiatric disorder (without MBI diagnosis). The MBI group included patients who had the onset of NPSs ? 50 years according to MBI criteria. The late-onset group included psychiatric patients who had the onset of psychiatric symptoms from the age of 50 years. No significant differences between patients with MBI and late-onset psychiatric disorders were found for age gender lifetime mood and anxiety disorders levels of severity of mental illness and overall functioning age at onset of psychiatric symptoms mood state at the time of the assessment and first-degree family history of dementia and Parkinson's Disease. Despite the prevalence of vascular

leukoencephalopathy did not differ between groups patients with MBI had a higher prevalence of MCI compared to those with late-onset psychiatric disorders ( $p = 0.004$ ). The BPRS total score and Negative Symptoms/Retardation subscale significantly differed between groups with greater symptom severity in patients with MBI (vs. late-onset: respectively  $p = 0.011$  and  $p = 0.015$ ). Conclusion: MBI patients has an higher prevalence of MCI with respect to late-onset psychiatric patients. Moreover MBI patients showed greater psychopathology severity motor retardation and apathy compared to those with late-onset psychiatric disorders. Since apathy has been previously found to confer a higher risk for cognitive decline its high prevalence in MBI patients support the neurodegenerative nature of this syndrome. The appropriate diagnosis of MBI syndrome may help correctly identify which patients who are referred to psychiatric settings are more likely to report negative outcomes.

Sunday May 05

### **Effectiveness of iCBT for obsessive-compulsive disorder in a nation-wide routine care in Finland**

*Suoma Saarni M.D.; Tom Rosenström; Jan-Henry Stenberg; Ville Ritola*

Obsessive Compulsive Disorder (OCD) has ranked among 10 most debilitating disorders by WHO. Having early onset and a chronic course when untreated OCD gives rise to substantial societal and economic burden Cognitive Behavioural Therapy (CBT) with or without exposure and response prevention (ERP) and have shown to be effective in treatment of. CBT/ERP are recommended as first line treatments in international treatment guidelines but the availability is far from

facing the demand. Given the efficacy and resource-efficiency of internet-based cognitive behavioral therapy (iCBT) it is increasingly recognized as a viable solution for enhancing the accessibility of evidence-based treatments. In RCT studies iCBT has shown to yield comparable efficacy with face-to-face CBT and being cost-effective but only few studies examining the effectiveness in naturalistic settings have been published. This study examined the effectiveness of the therapist guided iCBT for OCD in nationwide routine care. Methods: All participants (N=1296) in the treatment program between Mar 2019 and Oct 2021 were included. All participants had a doctor set diagnosis of OCD. The Helsinki University Hospital (HUS) has developed and provides nationwide internet-delivered therapist-supported CBT-based therapy for OCD. The treatment is free of charge diagnosis-specific and supported by a trained online therapist. The treatment includes 10 sessions of which 7 therapeutic and the last 3 sessions form a recapitulation. The primary outcome was OCD symptoms (Obsessive-Compulsive Inventory - Revised (OCI-R)). Correlates of the treatment response were investigated using simple regression models part correlates were investigating in a multiple regression model. To compute intention-to-treat estimates we performed multiple imputation using chained equations. We used linear regression to compute imputed and/or adjusted (paired) Cohen's d effect sizes. Results: The observed mean OCI-R scores were at baseline for all participants 27.29 (SD 11.09) and at the last treatment session 20.75 (11.00) and after 10th session 14.76 (9.89). Effect size at last treatment session was (Cohen's d -0.86 (95% CI -0.98- -0.75) and at 10th session (Cohen's d -1.45 (-1.55- -1.36). The imputed estimates of mean scores were systematically roughly one point higher than

the non-imputed estimates suggesting selective attrition from the sample. However correcting for this attrition had no effect on the estimated effect sizes of the therapy (data not shown). Conclusions: The results demonstrated in a large real-life dataset of iCBT for OCD a significant decrease in OCI-R scores from baseline to completion and an even larger decrease from baseline to session #10. Cohen's d effect sizes indicated meaningful improvements in symptom severity. iCBT is an effective treatment for OCD also in naturalistic clinical settings and offers a scalable and economic alternative to face-to-face therapies.

Sunday May 05

### **Frontotemporal dementia (FTD) syndromes: intersections between cognition language and behavior.**

*Sladjana Lukic; Masood Manoochehri; Mikhail Vysotskiy; Edward Huey*

Background: Frontotemporal Dementia (FTD) is a heterogeneous neurodegenerative disorder characterized by predominant frontotemporal atrophy. Though behavioral variant (bvFTD) syndrome is mainly characterized by behavioral and personality changes nonfluent primary progressive aphasia variant (nfvPPA) is defined by relatively isolated deficits in motor speech and grammar. Yet the classification of FTD remains challenging given the lack of comprehensive assessment and the variability of clinical phenotypes. Whether patients with bvFTD also display language deficits and nfvPPA display altered behavior is not well understood. The present study characterized neuropsychological and language patterns along the FTD spectrum and examined whether these patterns give rise to distinct behavioral changes. Method:

We conducted a comprehensive retrospective investigation of cognition language and emotion processing in 52 patients with FTD (38 bvFTD and 14 nvfPPA) by offering new windows into non-behavioral (in bvFTD) and non-language alterations (in nvfPPA). We integrated multiple assessments including Dementia Rating Scale (DRS)-2 and The Neurobehavioral Rating Scale (NBRS) to assess neuropsychological and neuropsychiatric symptoms of FTD respectively as well as Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) which was used to measure language abilities across FTD syndromes. Across patients we used a principal components analysis (PCA) of neuropsychological and language data to explore hidden patterns and the existence of data-driven clinical clusters. We correlated these PCAs with the presence or absence of behavioral symptoms across FTD syndromes. Results: The highest variance in the first principal component (PC1) came from the DRS-2 total score highlighting a globally altered cognitive status in bvFTD compared to nvfPPA. Specifically PC2 placed most of its emphasis on the DRS-2 Construction subtest in bvFTD. With regards to PALPA language subtests PC revealed the highest variance coming from word rhyme judgment (palpa15) and lexical-decision tasks (palpa27) repetition of nonreversible sentences (palpa12) and spelling (palpa41) showing largely overlap between bvFTD and nvfPPA. Further PC revealed an increased number of verbal-related errors on the Token syntax test and lower reading of nonreversible sentences (palpa37) in nvfPPA compared to bvFTD. Behaviorally increased NBRS apathy/blunting rating score was correlated with PC values on DRS-2 construction syntax test and reading. In contrast planning/insight rating scores were associated with PC lexical decision

values (all  $ps < .05$ ). Conclusion: These results identified specific clinical tests where scores were predictive of clinical syndromes elucidating several distinct qualitative patterns of symptoms that differentiated bvFTD from other dementia samples (e.g. nvfPPA) and further characterizing presentation of these diseases.

Sunday May 05

### **In depressed older people T. gondii protects against frailty**

*Hira Mohyuddin M.D.*

H Mohyuddin<sup>1</sup> B Laffon<sup>2</sup> JP Teixeira<sup>3</sup>45 S Costa<sup>3</sup>45 N Constantine<sup>6</sup> J Kanwar<sup>1</sup> A Dagdag<sup>1</sup> J Volkov<sup>7</sup> A Hemadeh<sup>2</sup> C Lema-Arranz<sup>2</sup> A Maseda<sup>8</sup> JC Millán-Calenti<sup>8</sup> L Lorenzo-López<sup>8</sup> V Valdíglesias<sup>9</sup> TT Postolache<sup>1</sup> Dept of Psychiatry UMD SOM MD USA UDC Grupo DICOMOSA Centro Interdisciplinar de Química e Biol Dept de Psicología Facultad de Ciencias de la Educación Campus Elviña s/n A Coruña Spain and Instit de Investigación Biomédica de A Coruña A Coruña Spain Env Health Dept NIH Porto Portugal EPIUnit - Instituto de Saúde Pública Univ do Porto Porto Portugal Lab for Integrative/Translational Research in Population Health Porto Portugal Instit of Human Virology Dept of Pathology UMD SOM MD USA St Elizabeths Hosp DC Dept of Behav Health DC USA UDC Geront and Geri Research Group Instit de Investigación Biomédica de A Coruña Complejo Hosp Univ de A Coruña Servizo Galego de Saúde A Coruña Spain UDC Grupo NanoToxGen Centro Interdisciplinar de Química e Bioloxía Depart de Biol Facultad de Ciencias Campus A Zapateira s/n A Coruña Spain and Instit de Investigación Biomédica de A Coruña A Coruña Spain Background: Chronic



infections exacerbate inflammation associated with aging (“inflammaging”) and as we reported for toxoplasmosis are linked with frailty. Certain chronic infections may be immunomodulatory. We hypothesized that positive links between serointensity and frailty will only be present in *Toxoplasma gondii* (T.gondii) seropositives without concurrent depression (another trigger of low-grade-inflammation). Methods: Older adults were recruited from Spain and Portugal to participate in this study [N = 601; mean age (SD) 77.3 (8.0) 61% women]. Scales included: the Geriatric Depression Scale (GDS) for depression the Fried Frailty criteria for frailty and enzyme-linked immunosorbent assay (ELISA) for plasma T. gondii IgG serointensity/seropositivity. Serointensity was dichotomized by its median (low vs. high). Analysis included logistic and linear regressions with adjustment for age and stratification by depression and seropositivity. Results: Seropositivity was negatively associated with frailty in individuals with depression (OR 0.21 95% CI 0.06-0.75 p 0.016). Among euthymic seropositives there was a positive association between frailty and high dichotomized-serointensity (OR 3.97 95% CI 1.29-12.27 p 0.017) but not with continuous serointensity (p 0.79). In depressed seropositives there was no significant association with dichotomized serointensity (p 0.74). Conclusion: Our results are limited by the cross-sectional design and bear replication in longitudinal studies. Among depressed older individuals reported to have upregulated low-grade inflammation chronic infection with T. gondii may be frailty-protective rather than risk elevating suggesting a possible context-dependent immunomodulatory role of chronic toxoplasmosis.

Sunday May 05

## **INNOVATIVE EDUCATIONAL STRATEGIES FOR PRIMARY MENTAL HEALTH TRAINING OF COLLABORATIVE CARE TEAMS: A BRAZILIAN EXPERIENCE**

*Andre Luis Bezerra Tavares M.D.*

**INTRODUCTION:** Mental Health disorders reach up to 20% of Brazilians. The National Health System (SUS) in Brazil is universal publicly funded and based on Primary Care but these teams do not have good training in Mental Health and the development of collaborative care with specialized providers is still incipient. **OBJECTIVE:** to evaluate innovative strategies of education in mental health and psychosocial care for primary and mental health care providers together in Brazilian northeast region improving assessment access adequate management follow-up and quality of longitudinal care of people with mental neurological and substance use disorders. The Mental Health Gap Program Intervention Guide (mhGAP-IG/WHO) was used been adapted to different types of training. It also aimed to strengthen mental health networks by increasing collaborative and stepped care.

**INTERVENTIONS:** The state of Ceará includes several interior areas with low IDH levels. The SUS Primary Care is the most important source of health care and since 2017 educational actions with the mhGAP-IG/WHO have been used to qualify its teams. During COVID-19 pandemic an educational project (Care in mental health and psychosocial care: evaluation management and follow-up in the territories - SMAPS-CE) began to amplify mental health and psychosocial care by primary care. Educational resources were adapted to different e-learning formats: actualization courses (238 providers trained); part of the curriculum of family medicine psychiatry and multidisciplinary residencies

and as short self-instructional online courses (2,255 trained). They enabled the development of telehealth care skills using mainly role play activities and support from telehealth teams. It also offered face-to-face courses (196 trained) qualifying and strengthening integrated care in Ceará. A total of 2,749 providers were trained developing resolute clinical management and reducing health expenses with collaborative and stepped care models. RESULTS: A survey evaluated the educational strategies and the effect of training using access quality indicators and the guarantee of longitudinal care among trained providers integrated network. In 2022 1151 evaluation forms were filled in (41.5% came from the capital and 58.5% from interior regions). The least well-evaluated criteria was the high workload of the trainings. The majority assigned an excellent grade to the didactic material and stated that they felt fully confident in applying the knowledge acquired in the courses. It also helped reducing stigma with the use of active motivating educational methodologies. The results of 2023 were not totally analysed. CONCLUSION: The project is universalizing access to primary mental health care training in the state through e-learning courses and motivating providers to work within collaborative care trainings and also helping primary and mental health providers to work together.

Sunday May 05

### **Nicotine Addiction and Cognitive Functions Among Rural Older West Texans Using Data from Project FRONTIER Conducted at the Garrison Institute on Aging**

*Eri Shoji M.D.; Boris Decourt; Volker Neugebauer*

Background: Although smoking is a risk factor for all-cause dementia nicotine is known to improve cognition. Administration in animal models improves attention working memory and long-term memory. (1) In addition to its short-term effects prolonged nicotine exposure is linked to the overall upregulation of nicotinic acetylcholine receptors (nAChR). Such changes are observed in animal models and in humans by PET imaging and post-mortem studies. (2) (3) The central cholinergic system plays an essential role in cognition and loss of cortical nAChR has been noted specifically in Alzheimer's disease. Thus it is a target of treatment for various dementias. (4) Although studies have been conducted on nicotine and its effect on cognitive function no known research has addressed nicotine addiction and neurocognitive function in an epidemiological cohort study. By assessing this relationship we aim to evaluate the net impact of the neuroprotective effects of nicotine and the hazardous effect that smoking imposes on cognitive function. Methods: All participants were enrolled in the Project FRONTIER study (Facing Rural Obstacles to Healthcare Now Through Intervention Education & Research) a longitudinal epidemiological study examining the relationship between biological environmental and psychosocial factors between cognitive aging in rural West Texas operating under the Institutional Review Board at Texas Tech University Health Sciences Center. The Statistical Package for the Social Sciences (SPSS) Version 26 was used for descriptive and analytical calculations. The Fagerstrom Test for Nicotine Dependence (FTND) was used to assess the degree of nicotine dependence and the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) score was chosen as a measure of cognitive

function. We calculated a third-order partial correlation coefficient between the FTND score and the scores of the total and each cognitive domain. We controlled for the effects of age gender and educational attainment. Results: The first-visit data of 1288 Project FRONTIER subjects was examined. 173 people were current smokers of which 72 were male (41.6%) and 101 were female (58.4%). Age ranged from 40 to 83 years old with a mean of 55.4 years old and standard deviation of 10.3 years. The mean numbers of education ranged from 0 to 20 years with a mean of 9.9 years and an SD of 3.7 years. There was a statistically significant relationship between the Total Fagerstrom Score and RBANS total score  $r = .17$   $p$  (two-tailed)  $< .05$  and RBANS language score  $r = .29$   $p$  (two-tailed)  $< .05$ . Conclusion: There is a very weak positive correlation between nicotine dependence level and overall cognitive function and a weak positive correlation between language function. There may be a net beneficial effect of nicotine dependence versus the hazards of smoking in cognitive functioning.

Sunday May 05

**Participatory Policy Co-Design: A new approach to interprofessional collaboration for policy development in a psychiatric setting.**

*Ellen Blair DNP APRN PMHCNS-BC NEA-BC CPHQ FAAN; Michael Dewberry; Sonia Perez; Javeed Sukhera M.D.;Ph.D.; Tess Atkinson*

Background: Organizational policy influences the quality of psychiatric care. However psychiatric organizations often review policy without inviting diverse perspectives. Psychiatric organizations may experience challenges with balancing their need to remain compliant with broader regulation and

risk mitigation with perceptions of trust and concerns regarding coercive practices within mental health organizations. Participatory policy co-design is an approach that might address this gap by fostering the development of inclusive policies that address the needs and concerns of all stakeholders. In this project the authors implemented a participatory-policy co-design process within a large psychiatric organization. Methods: A participatory policy review team was implemented consisting of interdisciplinary colleagues and patient and family advisors. The process involved publicly posting policies due for review using a web-based application and inviting input from throughout the organization. A mixed-methods approach was used to evaluate the process including both correlation analyses and qualitative thematic analysis. Twenty-six respondents participated including members of organizational administration providers nurses psychiatric technicians as well as recovery support specialists and patient and family advisors. Results: Overall participants described that the process was inclusive and the experience of participating was positive ( $p < 0.05$ ). Participants also noted that reviewing and providing meaningful input required a significant amount of time which was considered a barrier to the process. Participants also emphasized the need for more education and meetings to accompany the review process so that their feedback is as constructive as possible. Conclusions: Despite challenges implementation of a participatory policy-review process within a psychiatric organization has potential benefits allowing for the inclusion of diverse perspectives which can lead to more comprehensive and innovative policies. Moreover it promotes transparency accountability and authenticity by involving

stakeholders in decision-making and acceptance of policies increasing the likelihood of successful implementation. Further implementation would be enhanced through recognition of participants' time education and support for policy reviewers.

Sunday May 05

### **Peripheral insulin sensitivity modulates effort-based behavioral response to intranasal insulin in individuals with mood disorders**

*Aniqa Tabassum*

Mood disorders (i.e. major depressive disorder (MDD) and bipolar disorder (BD)) and metabolic disorders (e.g. type-2 diabetes (T2D)) have a bidirectional epidemiological association. To uncover mechanisms underlying the mood-metabolic disorders comorbidity this study investigated the role of peripheral insulin resistance (IR) in effort-based reward behaviour in individuals with mood disorders. This randomized crossover trial assessed effort-based decision-making in seventeen participants (10 BD 7 MDD) using the Effort-Expenditure for Rewards Task (EEfRT) in a functional MRI paradigm after intranasal insulin and placebo. Peripheral IR was calculated using the Homeostatic Model Assessment for Insulin Resistance (HOMA-IR). Peripheral IR moderated the behavioural response to intranasal insulin (Condition [insulin vs placebo] by IR interaction: Wald  $\chi^2=10.907$   $p=1.3$ ) showed no differences in likelihood of choosing the hard over the easy task on the EEfRT between the conditions (insulin 38% SE=6.8 placebo 41% SE=6.6). In contrast insulin sensitive participants (HOMA-IR<1.3) were more likely to select the hard task in the placebo (67% SE=7.3) vs. the insulin condition (49% SE=7.2). There were no effects of BMI and adjustments for age sex

MADRS scores and medications did not modify the moderating effect. Insulin-induced differences in reward-seeking behaviour between insulin sensitive and resistant individuals provides support for a neurobiological association between mood and metabolic disorders. The data collected from fMRI is expected to elucidate potential underlying differences in brain activity.

Sunday May 05

### **Principal components of telemedicine unreadiness in geriatric psychiatry outpatient referrals**

*Blaine Greenwald; Amir Nikzad*

Background: Telemedicine unreadiness is defined by the presence of technical/physical factors that hinder effective telecommunication between patients and healthcare providers. The evaluation of telemedicine unreadiness requires administration of relevant questions that are frequently interrelated. For example patients' access to internet-enabled devices is often linked with their access to internet connectivity. In this study based on a comprehensive survey a principal component analysis was conducted to isolate potential latent factors within the main domains of telemedicine unreadiness: digital access digital literacy and digital assimilation. Methods: New referrals (n = 800) to the Geriatric Psychiatry Clinic at Zucker Hillside Hospital at Northwell Health were surveyed for digital access (Wi-Fi and/or broadband internet and equipment availability) digital literacy (facility to engage in different aspects of digital technologies) and digital assimilation (actual use and caregiver support to achieve effective functionality). 'Yes' and 'No' responses to each survey question were normalized as z-scores. Within

each survey domain principal component analysis (PCA) was conducted to identify latent factors that explain 0.95 of variance in the data. Relationships between principal components and survey responses age and personal disabilities of the participants were explored using Spearman's correlation with Bonferroni correction (adjusted  $p = 0.0003$ ). Results: Digital access: A general access component significantly correlated with all survey questions ( $r = 0.48 - 0.86$ ; 49% of variance). In contrast an access mode component positively correlated with owning a desktop computer and wired internet capability ( $r = 0.35 - 0.55$ ) and negatively correlated with having a smartphone tablet and Wi-Fi access ( $r = -0.26 - -0.42$ ; 14% of variance). Digital literacy: A general literacy component showed multiple correlations with all the questions ( $r = 0.73 - 0.87$ ; 66% of variance). An audiovisual literacy component showed specific correlations to camera/microphone and videochat app use ( $r = 0.62 - 0.65$ ; 13% of variance). Digital assimilation: An actual use component correlated with recent texting emailing and internet use ( $r = 0.81 - 0.87$ ; 52% of variance). An interest/support component had strong correlations with interest in telepsychiatry and availability of caregiver support ( $r = 0.71 - 0.73$ ; 25% of variance). Conclusion: PCA identified latent factor components within telemedicine unreadiness survey questions that could potentially inform interventional targets. The audiovisual literacy component supports specific training initiatives that promote use of cameras microphones and speakers even in those older individuals who are already digitally literate. The interest-support component suggests that both cultivating interest (e.g. through enhanced competency training) and encouraging adjunctive human support may facilitate telemedicine readiness.

Sunday May 05

### **Psychotherapies and pharmacotherapies for military posttraumatic stress: A meta-analysis**

*Jenny (Jing Wen) Liu; Anthony Nazarov; J. Richardson M.D.*

Data estimate that up to 1 in 5 Veterans are diagnosed with posttraumatic stress disorder (PTSD) in their lifetime. Given the high rates of PTSD in military and Veteran populations the provision of care with consideration for the characteristics of the population and treatments are of critical importance. This poster will overview overall findings from a meta-analysis that evaluates the relative effectiveness of psychotherapies pharmacotherapies and combination therapies for PTSD in military and Veteran populations with data from 172 studies. Meta-analytic findings indicate significant heterogeneities in the literature and found that the pooled estimate of effects for psychotherapies and pharmacotherapies were comparable overall ( $g$  of 1.06 - 1.12  $CI(0.95 1.28)$   $p < .001$ ). However the combination of psychotherapy with pharmacotherapy was significantly higher  $g = 2.48$   $CI(1.68 3.29)$   $p < .001$ ). Results indicate that combining psychotherapy and pharmacotherapy contributed to significantly larger effects compared to psychotherapy or pharmacotherapy alone. These findings hold strong implications for future directions in treatment development and practice recommendations.

Sunday May 05

### **Strengthening Mental Health Literacy through social media and Volunteer Engagement in Low-Resourced Setting**



*Sanjay Yadav M.D.; Riju Kafle; Prakriti Pokhrel; Avilasha Singh; Shreedhar Paudel*

Nepal faces a significant mental health care gap characterized by deep-seated stigma inadequate mental health care resources and underinvestment<sup>12</sup>. Increasing mental health literacy (MHL) represents a crucial step in addressing these inequities<sup>3</sup>. The Nepal Institute of Mental Health (NIOMH) is a health initiative dedicated to integrating mental health care across multiple sectors promoting accessibility mental health advocacy and awareness. NIOMH launched "NIOMH-Aware" a meticulously designed volunteer-driven awareness program targeting the general population. The program's primary objective is to disseminate consistent and validated mental health information through social media (SM) platforms. Methods: Over 12 months we created "Let's Fight Depression" an awareness campaign in alignment with the Nepali calendar year 2079 focusing on depression-related themes monthly. We utilized SM platforms like Facebook Instagram TikTok and Twitter in both Nepali and English languages. Continuous feedback and discussions during the first year allowed us to refine our approach. We expanded our efforts to include more in-person activities particularly engaging with schools and colleges. In the second year we initiated the theme "It's okay to not be okay: let's talk about anxiety" with scheduled feedback sessions to ensure that our program remained relevant and responsive to the evolving needs of the communities. Results: After undergoing peer-reviewed content development and finalization NIOMH disseminates illustrative MHL material every week. This material takes the form of single or multi-slide posters and animated videos. Additionally MHL content is delivered through interactive webinars radio talks awareness

competitions live videos and polls throughout the year. NIOMH's SM pages facilitate communication fostering self-efficacy and addressing user queries ultimately encouraging steps toward mental health care-seeking behavior. The program's impact is assessed through SM metrics with increased participation in in-person activities content promotion and volunteer involvement. NIOMH has also been collaborating with local organizations that have approached via SM for mental health awareness seminars and workshops utilizing a substantial group of committed volunteers from mental health field for conducting these programs. Furthermore NIOMH is enhancing its database emphasizing the creation of fact-checked resources and patient fact sheets enhancing the accessibility and reliability of mental health information including critical topics like pathways to care and suicide prevention. Conclusion: Leveraging SM platforms NIOMH has established a cost-effective MHL program aimed at achieving a sustained reduction in stigma and the promotion of mental health care-seeking behavior. The program's impact as evidenced by increased SM engagement and awareness underscores the potential of innovative digital approaches to deliver MHL."

Sunday May 05

### **Telehealth Satisfaction Among Ethnic Minorities in a Sample of Pediatric Epilepsy Families**

*Swati Pandruvada M.D.; Tatiana Falcone M.D.; Jane Timmons-Mitchell*

Background: More than 50 million people are diagnosed with epilepsy; 80% of who live in low to middle income communities [1]. Telehealth is a powerful tool that can help improve access and limit barriers to care in

these populations. Studies analyzing the effect of telehealth on pediatric epilepsy families have shown positive outcomes and patient and caregiver satisfaction including reduced missed school and work hours more regular follow up and improved access to medication and less out of pocket costs [2-3]. Previous work on addressing minority needs in epilepsy care has found that describing differences in access to care between minority and non-minority patients is needed. Literature has also shown that ethnic minority households have less vehicle access but comparable access to internet devices & services [4]. This study evaluated the usage and satisfaction of telehealth in ethnic minority families with pediatric epilepsy. Methods: As part of a HRSA funded study Project IMPACTT patterns of telehealth usage by minority and non-minority caregivers were assessed. A total of 166 caregivers were included in  $\chi^2$  analyses using Bonferroni correction. Of these 30 caregivers reported minority status while 136 did not. Using questions developed by the cross-site evaluators at the American Academy of Pediatrics we asked about advantages and barriers to telehealth use. Surveys were sent to caregivers in REDCap a secure research environment. Data files were downloaded from REDCap for analysis. We created a “minority” dichotomy categorical variable 1 equaling “White Hispanic” “African-American” “Asian or Pacific Islander” “Native American” or “More than one race” and 0 equaling “White Non-Hispanic” to analyze the data. Results: The caregivers reported race and ethnicity including 81% white non-Hispanic; 7% more than one race; 3% Hispanic or Latino; 3% white Hispanic; and 2% African-American. Of interest there was not a statistically significant difference in having had a video visit or preferring video visits between minority and non-minority

caregivers. Results reaching a reportable level of significance include: My child missed fewer hours from school  $\chi^2 = 4.12, p = .04$ ; I felt less stressed/burden:  $\chi^2 = 3.78, p = .05$ ; I gained more independence in managing my child’s epilepsy  $\chi^2 = 5.67, p = .02$ . Conclusion: The Cleveland Clinic’s implementation of telehealth visits allows caregivers to conduct the visit from their own homes as opposed to the hub and spoke model of telehealth. This may contribute to the equivalency between video and in-person visits for both minority and non-minority patient families. As ethnic minorities may have relatively more barriers to healthcare further investigation regarding minority patient and caregiver attitudes towards telehealth and what improvements can be made to better the experience is crucial; telehealth can be the solution to increasing access to epilepsy care in these communities.

Sunday May 05

### **The Power of Participation: Reducing GAD-7 Scores Using a Collaborative Care Model in a Safety-Net Hospital System**

*Marsha Stern; Hans Verkerke; Savannah Ngo; Tianwen Ma; Jasmine Taylor M.D.*

BACKGROUND: The GAD-7 is a brief validated clinical screening tool for generalized anxiety disorder (GAD) which was developed for the primary care environment. Collaborative care is a standardized system of behavioral health integration proposed to treat common mental health conditions including GAD.

Collaborative care models seek to improve outcomes by implementing and evaluating common screening tools like the GAD-7 to tailor treatment and referrals to individual patients. Our study aimed to examine changes in GAD-7 scores over time among patients seen within Grady Health System’s

(GHS) Integrated Behavioral Health (IBH) clinic a collaborative care program serving patients at Georgia's largest tertiary care hospital. **METHOD:** This retrospective chart review included adult patients seen by GHS IBH between 2018 and 2023. To evaluate changes in GAD-7 scores over time we included patients who were screened at least two times using the GAD-7 instrument and seen by behavioral health care managers. Spaghetti plots of individual and population averages of GAD-7 scores were produced against the visit number. We examined the overall change in the GAD-7 scores between the baseline and the last score recorded within 12 months of the first visit and summarized the changes in numbers and proportions between the two-time points by discretizing GAD-7 scores into four levels: minimum (0-4) mild (5-9) moderate (10-14) and severe (15-21) using Wilcoxon-signed rank and Friedman tests respectively. In addition we fit a linear mixed model (LMM) to evaluate the effects of age gender race/ethnicity and visit number on GAD-7 scores over time. **RESULT:** Among 1068 patients with 2602 behavioral health visits the median GAD-7 score decreased from 14 at baseline to 12 within 12 months after the first visit ( $p < .001$ ). The number and proportion of patients with severe symptoms decreased from 466 (45.4%) to 363 (35.3%) while the number and proportion of patients with minimal symptoms increased from 93 (9.1%) to 182 (17.7%) ( $p < .001$ ). The LMM model suggested that GAD-7 scores collected at later visits were associated with a 0.68-point decrease ( $p < .001$  95% CI: [0.54 0.81]); The GAD-7 scores for patients above 65 were significantly lower than other age groups ( $p < .001$ ); Female patients on average had a 0.84 higher GAD-7 score than male patients ( $p = 0.038$  95% CI: [0.05 1.64]). No significant race effect was observed. **CONCLUSION:**

This study shows that patients seen within a safety-net hospital system's IBH program showed improvement in GAD-7 scores over the course of their engagement with a collaborative care model. These findings prompt further evaluation of GAD-7 screening in integrated models to identify systemic treatment-related or individual factors contributing to changes in self-reported GAD symptoms over time.

Sunday May 05

### **The shared genetic architecture of neurological and psychiatric disorders: a genome-wide analysis**

*Olav Bjerkehagen Smeland MD PhD; Gleda Kutrolli; Alexey Shadrin; Oleksandr Frei; Ole Andreassen*

**Background:** Neurological and psychiatric disorders rank among the leading causes of disability and mortality worldwide. Despite their shared link to the brain the disorders have generally been considered to reflect distinct pathogenic entities as emphasized by their separate classification in the International Classification of Diseases. However findings in neuroscience over the past decades combined with clinical and epidemiological observations have challenged the validity of this clinical distinction. Yet the extent to which the conditions share pathobiological mechanisms remain unclear. **Methods:** Here we aimed to conduct a comprehensive cross-disorder analysis using recent large-scale genome-wide association study data involving nearly 1 million cases across ten neurological diseases and ten psychiatric disorders. To this end we applied statistical tools that capture distinct forms of genetic overlap and we interpreted the genomic data using a variety of biological resources.

Results: Using complementary statistical tools we demonstrate widespread genetic overlap across neurological and psychiatric disorders indicating that they partly share genetic etiology. In particular migraine essential tremor stroke and multiple sclerosis were genetically correlated with several psychiatric disorders. Furthermore biological interrogation revealed that neurological diseases were associated with heterogenous biological processes while psychiatric disorders consistently implicated neuronal biology. Conclusion: Altogether the study indicates that neurological and psychiatric disorders share key etiological aspects contrasting their clinical distinction. The results represent a conceptual advance in our understanding of the common genetic variation underlying brain-related disorders suggesting that a large set of genetic variants influence a wide range of pathogenic processes in which disorder specificity is determined by the distribution of effect sizes. The study may have important implications for disease classification genomic precision medicine and clinical practice in both neurology and psychiatry. This study was supported by the American National Institutes of Health (NS057198 EB000790 1R01MH124839 R01MH120219 RF1AG073593) the Research Council of Norway (RCN) (229129 213837 324252 300309 273291 223273 248980 326813) the South-East Norway Regional Health Authority (2019-108 2022-073) KG Jebsen Stiftelsen (SKGJ-MED-021) EAA grant (#EEA-RO-NO-2018-0573) the European Union's Horizon 2020 research and innovation programme under grant agreement No 847776 and 964874 and 801133 (Marie Skłodowska-Curie grant agreement).

Sunday May 05

## **Unique approaches in care management shown to improve physical health of rural patients with serious mental illness**

*My Nim M.D.; Pari Noskin; Michael Foust*

Background: Those with mental illness have higher rates of morbidity and mortality compared to the general population. When taken into account additional barriers of those with mental illness living in rural there can be even worse health outcomes. This study contributes to the literature by examining how unique approaches to care management including use of peer support workers and community health workers interchangeably can improve the physical health of those with mental illness in rural communities. Methods: We pooled patient data for clients in a rural mental health clinic at baseline at 6 months from baseline and at 12 months from baseline via subjective questionnaires hospital records and vital sign and lab measurements. We looked at outcome variables of life function overall health serious psychological distress living condition satisfaction housing stability emergency room visits hospitalizations and health measurements including blood pressure triglycerides BMI lipids and hemoglobin A1C. Results: We conducted chi-squared tests to assess independence between the three time points and the outcome variables and F-tests to assess mean differences between the time points for the outcome variables. We identified that there is a statistically significant relationship between the timepoints and individuals with serious psychological distress (Chi squared-test  $p$ -value $<0.001$ ) and that there is a statistically significant difference in mean number of individuals with psychological distress over the three timepoints (F-test  $p$ -value $<0.001$ ) at a confidence level of 95%. Proportion of clients with serious

psychological distress reduced over time significantly. Similar conclusions are drawn for emergency room visits systolic blood pressure triglycerides BMI HgbA1c and Lipid HDL. Conclusion: Use of novel approaches to care coordination was associated with improved health outcomes for those with mental illness living in a rural community. These results inform mental health centers on an approach to improve the physical health of their clients.

Sunday May 05

### **A literature review of technological and community-based interventions for Alzheimer Disease in Japan**

*Anna Mori-Kreiner*

**Abstract** Background: Japan has an ageing society with an increasing prevalence of dementia with Alzheimer Disease (AD) as the most common cause. While disease-modifying therapies are currently being explored through clinical trials Japan still confronts issues of healthcare social and informal caregiver costs and burdens which have pushed for research on AD. The government implemented the New Orange Plan a national dementia initiative in 2015 that includes novel-low cost applications in technology and legal requirements to detect mild cognitive impairment in older adults. Here we review literature of Japanese studies that focus on prevention supportive care and early detection of AD or mild cognitive impairment (MCI) using community or novel technology-based interventions. Methods: Using PubMed and Google Scholar a literature review was conducted for studies of AD patients in Japan. Keywords used were: “Alzheimer disease” or “mild cognitive impairment” or “dementia” and “Japan” and “supportive care” and “environment.” Studies

involving biomarkers imaging and pharmacological therapies were excluded. Articles that were published between 2018 to 2023 were used. Results: A total of 64 papers were retrieved from the two databases. Of those 7 were found to be relevant to the topic of interest and used in the literature review. A recent report describes implementation of home-based sensors that alerts family members of MCI patients when there is a decline in teapot use and the requirement of cognitive assessments to renew driver’s licenses as part of the national dementia initiative.<sup>3</sup> One case report details a practical use of AI through robots that serve as conversational partners for AD patients as intellectual stimulation is beneficial to preserve cognitive function.<sup>4</sup> Development of dementia-friendly communities is a national initiative that is prioritized in Japan.<sup>5</sup> Two studies found that accessibility of sidewalks are associated with lower incidence of dementia<sup>6</sup> and lower grocery store availability is associated with increased incidence of dementia<sup>7</sup> thus supporting an infrastructure that allows elderly patients activities that may minimize risk of dementia. Conclusion: Japan and the United States both have national initiatives that encourage research on AD prevention which is needed to alleviate caregiver burden attenuate the decrease in quality of life for AD patients and reduce economic burden. In Japan there is also a simultaneous effort for research in interventions for those already with AD which is necessary to preserve functional decline and decrease mortality. Recent literature findings support the improvement of living environments for older adults through infrastructure and technology. Across the globe populations are ageing. Other countries may consider similar strategies to improve healthcare for AD patients and older adults.



Sunday May 05

### **A Pre-Implementation Evaluation of Contextual Barriers and Facilitators to Use of Long-Acting Injectables and Clozapine for Early-Phase Psychosis**

*Avram Kordon; Allison Carroll PhD*

Background: Early intervention services for early-phase psychosis improve psychosis symptoms. Long-acting injectable (LAI) medications and clozapine are effective yet underutilized medical therapies in these settings. The purpose of this study was to conduct a pre-implementation evaluation of the contextual determinants of early intervention programs to implement future innovations to increase LAI and clozapine use. Methods: Semi-structured interviews (March-Sept 2023) explored barriers and facilitators to implementing LAIs and clozapine in early intervention services. Participants were: Prescribers (prescribing health care professionals) non-prescribing clinicians (therapists peer support specialists) Administrators (organizational leaders administrative staff) Clients (people with lived experience of early-phase psychosis) and Caregivers (relatives or live-in partners of clients). The interview guide was developed using the Consolidated Framework for Implementation Research (CFIR 2.0; domains of Innovation Outer Setting Inner Setting Individuals Process). Data were analyzed using Rapid Turnaround Qualitative Analysis. Results: The sample included 2 Prescribers 5 non-prescribing clinicians 3 Administrators 3 Clients and 3 Caregivers representing 5 early intervention clinics. Participants were supportive of using LAIs while most (excepting prescribers) were unfamiliar with clozapine (Innovation). Most participants described giving LAIs as

straightforward although barriers included transportation insurance coverage and costs (e.g. financial time). Most participants stated critical incidents (e.g. COVID-19) did not significantly interfere with implementation while barriers included that no LAI performance measures currently existed; stigma affected patient willingness to take medication; and many described clozapine as a “last resort” (Outer Setting). No physical infrastructure barriers were identified and the treatment culture was described as collaborative. Most participants indicated LAI use was compatible with clinic workflows but some were in need of resources (e.g. individuals trained to administer LAIs and draw blood for clozapine monitoring; Inner Setting). Participants on the healthcare team expressed confidence in their roles and family education and collaborative decision-making were recommended to improve client engagement (Individuals). Participants related the importance of tracking medication compliance addressing client concerns and providing prescribers with updated treatment guidelines (Process). Discussion: Overall participants felt positively about LAIs and uncertainty about clozapine. Strategies to increase LAI and clozapine use included reducing stigma training staff in medication administration and supporting clients/families to use these medications. These results can aid the implementation of early intervention services seeking to increase the use of LAIs and clozapine for early-phase psychosis.

Sunday May 05

### **Age stigma and recovery: the case of electroconvulsive therapy.**

*Hector Rincon Reques; Gonzalo García Cepero PGY2; maria eva roman mazuecos*

Introduction: Electroconvulsive therapy (ECT) is an effective and well-tested course of treatment for some of the most severe psychiatric disorders (treatment-resistant depression catatonia psychotic disorders...). With few side effects and nearly no contraindications it can be one of the safest options to address mental conditions that resist conventional treatment in elderly patients. Still some studies suggest that ECT is underused probably because of the stigma associated with an act of care that is perceived by the general public as archaic and unsafe. In this descriptive study we explore the indications sociodemographic profile and outcome of the 37 patients over 65 years of age that have undergone ECT between 2007 and 2023 while admitted to an acute care psychiatric ward in Madrid Spain. Methods: A database has been designed and built using the clinical reports available. From these variables such as age gender DSM-5 diagnosis time spent until ECT referral course of treatment and clinical response have been collected and assessed statistically using SPSS software. Descriptive and comparative analyses have been used to identify relevant differences in elderly population (over 65 years-old). Results: Among the 122 patients referred to ECT between 2007 and 2023 37 (32%) were over 65 years old. Most of them (81%) were women; nearly all had a previous mental health record (91%) and an overwhelming majority (93%) experienced a significant recovery after receiving a full course of treatment. On the other hand elderly patients were more prone to experiencing side effects after the procedure had a higher rate of early readmissions after being discharged from the ward and were more likely to have had previous experience with ECT. clinical profile also differed between the groups: mood disorders (both with and without

psychotic symptoms) were more common in seniors patients while their younger counterparts usually experienced treatment-resistant psychosis. Substance abuse was not a relevant feature in those over 65 years of age while drugs played some kind of role in the psychopathology of some (7%) of those below that threshold. Discussion: Our study summarizes the unique clinical and sociodemographic portrait of a population of elderly patients affected by mental health disorders that require intensive treatment to achieve symptom control. These results emphasize the different requirements of those experiencing Severe Mental Disorders (SMDs) late in life insinuate the role of organic comorbidity in their response to conventional treatment and emphasize the importance of considering electroconvulsive therapy in their treatment plan particularly when a speedy response is needed and other strategies do not provide the required improvement. Even though older adult psychiatry has become a respected and well-known area of expertise among mental health professionals further research is needed to address such a vulnerable population.

Sunday May 05

### **Burnout and Depression to Discharge: A Military Case Series**

*Kyle Hardwick M.D.; Andrew Rumble D.O.*

Contemporary research highlights the effects of burnout but the military experience imparts unique factors not easily replicated in civilian studies. A median of 19% of service members (SMs) report high emotional exhaustion. While not an inevitable precursor burnout can catalyze major depressive disorder (MDD). With an approximate prevalence of 6% within the military MDD accounted for the most use of inpatient bed

days in the military in 2021. This case series delves into the transition from burnout to depression within the military setting shedding light on factors unique to this context that jeopardize continued military service. SM 1 was diagnosed with adjustment disorder due to assuming substantial responsibilities of the unit and eventually received a MDD diagnosis after significant disillusionment of the command team. The resulting depression necessitated hospitalization and intensive outpatient care leading to medical discharge after a change of unit. SM 2 was referred for insomnia and chronic pain. Psychiatric evaluation revealed MDD. Patient citing limited time for attending to family after a sister's passing as contributing to worsening depression. Intensive outpatient treatment culminated in medical board referral. SM 3 was diagnosed with chronic pain and adjustment disorder. Chronic relocations hindered consistent medical engagement. Diagnosis shifted to MDD upon psychiatric evaluation. Symptoms worsened due to supporting a friend through a sexual assault trial and facing an AWOL investigation while on emergency leave following the loss of their mother. With a significant amount of military service time SM 3 retired shortly after diagnosis. This series illuminates a recurrent pattern of burgeoning burnout prompting escalated healthcare engagement culminating in psychiatric referral and MDD diagnosis eventually necessitating medical discharge. Despite the military's efforts to destigmatize behavioral health services service members often resist seeking treatment due to fears of jeopardizing their careers. The potential benefit of earlier intervention is overshadowed by the fear of career jeopardy. In conclusion this series underscores the urgency of early intervention to mitigate the progression from burnout to severe depression. The military endeavors to

destigmatize mental health. Yet cases persist where service members forgo treatment despite burnout's debilitating effects. Improved communication of mental health services and targeted efforts to educate command units are crucial. Additionally psychiatrists liaise between patients and commands addressing precipitating factors prior to the emergence of severe depression. Such comprehensive measures hold promise to augment mental health services elevate patient outcomes and curtail unwarranted separations.

Sunday May 05

### **Clozapine plus Risperidone: A Dangerous Combination for Some**

*Kelly Akah M.D.; Andrea Weir D.O.; Emily Bray D.O.*

Background Clozapine augmented with risperidone is a widely used strategy in managing treatment-resistant schizophrenia (TRS). Both medications share metabolism at cytochrome P450 2D6 (CYP2D6)<sup>3</sup>. In poor metabolizers medication interactions can lead to increased clozapine levels<sup>2</sup>. Poor metabolization at CYP2D6 is underrecognized in the African American (AA) population and according to a recent meta-analysis up to 39.46% of AA in the United States are non-normal metabolizers<sup>2</sup>. We describe a case in which an acute exacerbation of TRS was managed with this well-established augmentation strategy and caused an unintended increase in clozapine levels. Clinicians should be aware of the treatment implications of non-normal metabolism at CYP2D6 and how it may impact vulnerable populations. Case A 52-year-old non-smoking AA woman with TRS and multiple medical comorbidities was admitted to the psychiatric unit after attempting self-

immolation. On day two of hospitalization she was found to have a critical clozapine level of 1396 ?g/L. Over the course of several weeks her clozapine dose was tapered and augmented with risperidone. Rather than an expected decrease in clozapine levels after augmentation her levels increased. The patient's clozapine: norclozapine metabolic ratio (MR) ranged from 2-2.5 suggesting poor metabolism and decreased activity at CYP2D6. Only with a reduction of clozapine by greater than fifty percent did her levels stabilize to a nontoxic range. Discussion Genetic variation at CYP2D6 affects drug metabolism and bioavailability thus impacting drug safety and efficacy<sup>3</sup>. In the AA population the prevalence of poor metabolizers at CYP2D6 often exceeds those of other ethnicities<sup>2</sup>. Studies suggest that a variant allele CYP2D6\*17 has reduced activity and occurs with a higher frequency in the AA population<sup>1</sup>. In these individuals a MR can be beneficial in understanding clozapine's metabolism. A MR greater than 2 suggests a poor metabolizer or exposure to CYP2D6 inhibitors and results in increased plasma clozapine levels<sup>4</sup>. Conclusion There is considerable racial variability in CYP2D6 metabolism<sup>1</sup> and yet there is a dearth of literature on prescribing practices for AA patients. Many medications including psychotropics are metabolized through the CYP2D6 pathway<sup>3</sup>. Psychiatrists should be aware of the clinical implications of these differences and aim to establish judicious prescribing practices in at risk populations.

Sunday May 05

### **Comparative Analysis of First Episode Psychosis Management in a Military Setting**

*Kyle Hardwick M.D.; Andrew Rumble D.O.*

Behavioral health conditions accounted for 31.3% of military inpatient encounters in 2021 and the highest hospitalization rate involved psychosis. Given that psychotic disorders commonly manifest before age 30 and a substantial military segment is under 26 (44.4%) first episode psychosis (FEP) becomes a significant concern. This study juxtaposes two cases to elucidate differences in service duration before separation presentation challenges and potential enhancements. Patient A was medically evacuated from station central Europe for inpatient treatment after command noted derealization and suicidal ideation. Diagnosed with major depressive disorder with psychotic features they returned stateside for subsequent intensive programming due to auditory hallucination. Despite an additional inpatient admission total outpatient treatment of three months culminated in medical discharge with minimal symptoms. Patient B self-referred for nightmares with progression to visual and auditory hallucinations underwent extensive evaluation including psychological testing medical workup for potential confounding factors and medication titration requiring ten months of outpatient treatment for a diagnosis of other specified psychotic disorder before initiating discharge through a medical board with reduced symptoms. Highlighted aspects of military patient care include proactive identification of symptoms efficient medevac services and swift initiation of medical board proceedings. For patient A swift medical board initiation after medical evacuation aided the transition out of the military prioritizing well-being and highlighting the military's proactive approach to treating psychosis. Conversely patient B depended on self-reporting symptoms. Due to the need to properly evaluate the symptoms and accurately diagnosis with proper medical and

psychological testing the duration of time in service was extended and relied heavily on administrative efficiency and access to specialized care. While safety can be maximized through profiling and contact with command the patient's exposure to military stressors was extended. In conclusion this analysis sheds light on the variable paths FEP cases can take within a military setting. Initiating the medical board process as soon as service-disqualifying symptoms are found ensuring specialized care access and promoting administrative efficiency markedly influence the patient's journey. These findings emphasize the necessity of a comprehensive coordinated strategy for managing FEP in military settings. Such a strategy would aim to identify treat and transition individuals experiencing such challenges. Further research can further refine protocols for improved mental health care during military service and allowing for safe and expedient transition when needed.

Sunday May 05

### **Demographic Factors Increasing Risk for Mental Health Conditions Resulting in Separation From the United States Navy in the Outpatient Setting**

*Aaron van Dyne M.D.; Artemisa Zuazo; William Hoover*

Military psychiatrists bear a unique burden to evaluate patient's suitability for service in addition to providing treatment. One important outcome measure for military psychiatrists is the number of patients separated due to being unsuitable for continued service. Psychiatrists must balance the benefit of separation for the patient versus the costs associated with separating large numbers of sailors. We must be cognizant of cases where there are

discrepancies in rate of separation based on factors such as race gender and ethnicity. During fiscal year 2008 alone 20.7% of US Navy Sailors failed to complete their first enlistment term and we know that in general 40% of administrative separations are performed due to mental health conditions (specifically adjustment disorders). This study builds on a prior study that investigated separations that occurred after inpatient psychiatric hospitalization at a large military treatment facility. In that study women and African Americans were overrepresented and Hispanic individuals were separated at a lower rate than would be expected based on their representation Navy-wide. In this study we examined these same trends in the outpatient and operational settings such as sailors separated by a psychiatrist or psychologist assigned to their ship to compare how sailors separated from these settings are similar to and different from those separated from the inpatient setting. We were additionally able to compare the average time in service between sailors separated in the operational outpatient and inpatient settings. This study further underscores the racial and gender disparities of those separate from the Navy while raising question as to why various settings give differing results. With this information we aim to propose interventions to reduce these disparities and improve diversity equity and inclusion within the United States Navy.

Sunday May 05

### **Efficacy of Naltrexone in the Treatment of Compulsive Sexual Behaviors: A Systematic Review of Clinical Trials**

*Jonathan Stone BS; Mohan Gautam D.O.; M.S.; Jonathan Stone BS*



Background: In the realm of "Confronting Addiction from Prevention to Recovery" Compulsive Sexual Behavior Disorder (CSBD) stands as a poignant challenge.

Characterized by uncontrolled repetitive sexual impulses leading to behaviors that disrupt social and emotional well-being CSBD inflicts marked distress on affected individuals. With limited treatment avenues available the path from prevention to recovery is intricate. Central to this journey is the identification and understanding of effective treatments. This review delves into the potential of naltrexone an opioid receptor antagonist as a beacon of hope in the therapeutic landscape of CSBD.

Objective: To synthesize evidence from recent clinical trials to assess the effectiveness of naltrexone in treating CSBD. Methods: A systematic review was conducted following PRIMA-P guidelines. Searches were made in PubMed and EMBASE using the terms "(naltrexone) AND (Compulsive sexual behavior)". A total of 90 results were identified with 14 from PubMed and 76 from EMBASE. After deduplication 4 clinical trials utilizing pharmacotherapy were identified. All trials were RCTs focusing on the use of pharmacotherapy. Results: Studies consistently underscored naltrexone's potential in managing CSBD. Two RCTs observed a significant temporal effect on CSBD symptom severity gauged by Hypersexual Behavior Inventory. Naltrexone dosing ranged between 25-100mg across studies with 50mg being predominant. An acute negative impact on sexual arousal was attributed to naltrexone in one study. The rise in prolactin levels potentially mediating sexual satiation elucidates naltrexone's positive effects in CSBD treatment. Both paroxetine and naltrexone were deemed safe and well-tolerated by men with CSBD and outperformed placebo in symptom reduction.

One RCT on Parkinson's disease patients indicated that naltrexone led to a significant decrease in the impulsive sexual behaviors in Parkinson's disease over time compared to placebo although global assessments did not show significance. Conclusion: Naltrexone emerges as a feasible treatment for CSBD demonstrating symptom reduction superiority over placebo. Its potential in mediating sexual satiation via prolactin levels offers a unique insight into naltrexone's efficacy. The study on Parkinson's disease patients further broadens the scope of naltrexone's applicability suggesting its potential benefits beyond the primary CSBD population. Further studies are warranted to solidify treatment protocols and explore long-term outcomes. Contribution to Existing Literature: This review stands as the first comprehensive examination of clinical trials representing high-quality data on the topic of naltrexone's efficacy in treating CSBD. By consolidating evidence from multiple RCTs this review offers a holistic perspective on naltrexone's role in CSBD treatment bridging gaps in the literature and providing a foundation for future research and clinical practice."

Sunday May 05

### **Evaluation of the major genetic polymorphisms of CYP450s for achieving better pharmacotherapeutic outcomes in psychiatric patients**

*Aleksandar Obradovic M.D.;Ph.D.; Michela Traglia; Russell Amato; Liubov Leontieva*

Background: Individuals with psychiatric disorders are clinically clustered by a set of symptoms over a certain period. For decades this was a suboptimal approach to understanding the full character of mental health diseases including the broad range of

psychiatric comorbidities and the dramatic clinical differences across patients with identical diagnoses. A gene-environment framework is a promising new approach that utilizes GWAS and QTL analysis to generate the most efficient and personalized algorithm for choosing a better diagnostic profile and optimal psycho-pharmaceuticals. The present study describes the distinctive nature of a cohort of psychiatric patients used to evaluate individual drug metabolism rates and how it is influenced by genetic factors. Method: We conducted a retrospective investigation of genotype and phenotype profiling of CYP450s genes in a cohort of 54 patients during their hospitalization at the acute psychiatric unit of an academic hospital. We measured combinations of alleles for each of the genetic variations in CYP450s detected by the Genomind® PGx Test and provided information on the approximate frequency of these variations. Then we used the categorical phenotypes such as the metabolism rate derived by their genotype of common single nucleotide polymorphisms in CYP450s genes. We calculated the Gower's distance between patients using age and six CYP450 genotype-derived metabolism rates and we performed hierarchical clustering using the R statistical tool. Results: Across all CYP450 genotypes reported normal metabolizers comprise 35-87% and intermediate metabolizers comprise 17-33% of patients. While rapid and ultrarapid metabolizers are present between 9-41% poor metabolizers correspond to 4-7%. Using patient age and the categorical metabolic rate derived by the individual CYP450 genotypes we found clusters defined by metabolic rate signature. The 2C19 2D6 2B6 and 2C9 genes show significant intermediate metabolic activity with up to 30% and 43% of patients showing rapid and ultra-rapid levels of activity on the 2C19

variant. Interestingly only a small number of patients have genetic variants with poor metabolism rates 8% on average. The highest level of variability is observed in the 2C19 variant known to be responsible for the majority of drug metabolism regarding antidepressants (e.g. citalopram and amitriptyline) and the 2B6 variant a major isoform catalyzing both ketamine as well as some antipsychotics. Conclusion: The findings may provide insights into a better understanding of gene-pharmaceutical interaction influencing psychiatric disease progression and prognosis to help physicians curtail the therapy in a way that would be most beneficial and with the least side effects.

Sunday May 05

### **Examining the Relationship and Prevalence between Marijuana Legalization and Psychiatric Emergency Department Admissions: A Retrospective Study**

*Riley Hartnett; Briana Silva*

Abstract: Background: Cannabis one of the most frequently used recreational drugs worldwide is a modifiable risk factor for the development and exacerbation of mental illness. This retrospective longitudinal study evaluated a trend and increased rate of decompensation within the BronxCare Health System's psychiatric adult patient community following the legalization and destigmatization of recreational marijuana use. Methods: Patient data was analyzed utilizing patient charts who underwent psychiatric evaluation with an acute cannabis intoxication seen on initial urine toxicology through the comprehensive psychiatric emergency services (CPEP) BronxCare Health System admissions records from March-May 2019 March-May 2020 March-May 2021

March-May 2022 March-May 2023 respectively. Our sample size (n) consisted of all patients aged older than 18 years who have been evaluated and/or admitted with a positive urine sample with cannabis. Charts from 2019 are considered the “pre-legalization” group and charts from 2023 are the “post-legalization” group as recreational marijuana was legalized in March 2021. Patients were assessed for length of stay within the inpatient psychiatric unit the presence or absence of readmission within the timeframe of the study the psychiatric comorbidities and diagnoses seen as well as the use of antipsychotics sedatives and/or anxiolytics to treat these patients. Other factors assessed included concomitant illicit substance use. Conclusion: In this study of adult patients with acute cannabis intoxication at BronxCare it was observed that most patients were males with schizophrenia. Additionally there was a 10% increase in admissions following cannabis legalization in 2021. The study acknowledges that various factors including urbanicity marital status childhood trauma socioeconomic status employment and the COVID-19 pandemic influenced patient admissions and psychiatric reasons for admission. The conclusion highlights a complex bidirectional relationship between cannabis use and mental illness particularly schizophrenia and psychosis though causality remains unclear. The need for further research with better control of variables to understand this relationship is emphasized. This research received no specific grant from any funding agency in public commercial or not-for-profit sectors.

Sunday May 05

## **Exploring the Relationship Between COVID-19 and Depression Among Chilean Health Workers**

*Nidhi Bhaskar; Robert Kohn M.D.*

**Background:** The COVID-19 pandemic has strained global healthcare systems particularly impacting frontline workers. This study examines depression risk factors among Chilean healthcare workers during the pandemic. Depression is characterized by persistent low mood and various symptoms including feelings of worthlessness reduced sleep and appetite. Risk factors include occupational stress perceived stress social isolation and personal challenges. Frontline workers face heightened stress due to their demanding roles infection risk and heavy workloads often leading to anxiety and depression. **Methods:** This study included 625 healthcare workers working at public hospitals and primary care centers in the Bio-Bio region of Chile who responded to an online survey. Participants had a probable diagnosis of major depression determined using a PHQ-9 score of 10 or greater. The sample had a mean PHQ-9 score of  $8.2 \pm 5.5$  with 33.4% reporting major depression. The majority were female (80.8%) aged between 19 and 65 (mean  $37.8 \pm 10.0$ ) and worked full-time in hospitals (57.1%). Approximately 24.3% self-identified as having a pre-existing mental disorder and 19.5% had pre-existing medical conditions that could increase COVID-19 susceptibility. **Results:** Factors associated with an increased risk of major depression included being female living with others having a larger household having an adult over 65 in the household higher education and working as nursing assistants. Pre-existing medical and mental disorders also increased the risk. COVID-19-related factors such as increased tobacco and alcohol use working in proximity to COVID-19

patients knowing an infected co-worker and having family and friends with COVID-19 were associated with higher depression risk. Poor family function lack of emotional support fear of COVID-19 and perceiving the pandemic's adverse impact on life were additional risk factors. Logistic regression identified sex living with others premorbid medical illness with obesity and prior mental illness as significant predictors of major depression. The final model included COVID-19-related factors such as increased alcohol use family members with COVID-19 poorer family function lack of emotional support fear of COVID-19 and perception of pandemic impact on life. Discussion: This study highlights the prevalence of major depression among healthcare workers in Chile during the COVID-19 pandemic. While work-related factors played a role the study found that factors outside of work such as living arrangements family infections poor family function and emotional support significantly contributed to depression risk. Fear of COVID-19 and its perceived impact on life were also crucial factors. Addressing these risk factors including providing mental health support and interventions is essential for healthcare worker well-being during and beyond the pandemic.

Sunday May 05

### **Health of Migrant Peoples in Transit Through Darien Panama: A Multidisciplinary Evaluation of their Health Needs**

*Justo Pinzon Espinosa M.D.; Eugenia Millender Ph.D. RN PMH-APRN CDE FAAN; Amanda Gabster Ph.D.; Jennifer Toller Erasquin PhD MPH*

BACKGROUND: Forced migration represents a challenge to the health of migrants refugees

and asylum seekers worldwide and the health systems tasked with their care. The COVID-19 pandemic worsened their well-being already vulnerable due to precarious living economic and health conditions. In Panama a 20-fold increase year-over-year of migration through the dangerous Darien Forest (with no access to basic human needs such as healthcare or drinking water) has stressed humanitarian and public health systems in the Americas. There is an urgent need to assess the health and well-being needs of migrants. AIMS: To assess and describe the mental health and quality of life of migrants in transit through Darién Panama. METHODS: Cross-sectional study with random sampling of migrant peoples in transit at a Migrant Reception Station in Darién Panamá between January 4-11 2022. After recruitment (?12 years and speak and write basic Spanish English Haitian Creole French or Portuguese) data collection included a self-applied questionnaire (?18 years) on self-reported demographics migration r and basic health data. Participants were initially screened using the Refugee Health Screener (RHS-15) questionnaire and asked to fill out the 8-item WHO Quality of Life (WHO-QoL-8) survey to evaluate the self-perceived QoL. Those with a positive RHS-15 were offered the possibility to be assessed on-site using the Mini International Neuropsychiatric Interview (MINI). Descriptive analyses were used to report findings. Ethical approval by number 260/CBI/ICGES/21. RESULTS: A total 138 people (n=129 adults) were included in the mental health assessment; n=135 (912% of eligibles) were screened with RHS-15. Two-thirds (n=93) of those screened presented emotional distress and 57% (n=77) were assessed by a mental health specialist on-site. Sixty-one (45%) participants with a positive RHS-15 were assessed with the MINI; a third (n=20) had a previously diagnosed

mental health condition. N=50 (80%) met criteria for a current mental disorder with post-traumatic stress state being the most common diagnosis (60% n=30). Alcohol use disorder (n=7 14%) and other substance use disorder (SUD) (n=5 10%) were also prevalent in the assessment conditioned by availability. A total of n=128 (92%) responded to the WHO-QoL-8 questionnaire with 25% (n=33) rating their overall QoL as poor" or "very poor". It should be noted that 50% (n=68) reported their overall QoL as "neither good nor bad". CONCLUSIONS: To the best of our knowledge this is the first systematical assessment of the mental health and quality of life of migrants in transit in through the Darien Forest in Panama. We found the majority presented emotional distress while only a third had a previous mental health condition including SUDs; most migrants presented acute post-traumatic stress and sub-optimal QoL. There is a need for mental healthcare provision at MRS that receive migrant peoples in transit through Panamá."

Sunday May 05

### **Impact of Introducing a Capacity-Based Mental Health Legislation: A Longitudinal Qualitative Exploration of Stakeholders' Perspectives**

*Jacob Jorem; Tonje Lossius Husum; Jørgen Dahlberg; Reidar Pedersen*

Background: Decision-making capacity (DMC) is widely used in health law to give due weight to patient autonomy. Lacking DMC was introduced as a condition for involuntary admission and treatment following amendments to the Norwegian Mental Health Care Act in 2017. This study explores stakeholders' perspectives on introducing a capacity-based mental health law. Methods: The study used a longitudinal qualitative

design. Semi-structured interviews were carried out in 2018 with 60 informants affected by the legislative amendments including patients family psychiatrists psychologists general practitioners and lawyers. 26 of the same informants participated in follow-up interviews in 2022–23. The transcribed interviews were analyzed using manifest and latent forms of thematic analysis. Results: The informants shared similar experiences with the impact of introducing a DMC criterion in mental healthcare in 2018 and 2022–23. Several informants described increased awareness of patient autonomy improved legal safeguards and more comprehensive assessments when considering coercion. In parallel many informants reported the threshold for involuntary admission and treatment as becoming higher while the threshold for discharge was lowered following the legislative amendments. According to them the new criterion made it more difficult to admit patients until they became seriously ill and harder to retain once DMC was regained. Patient groups with significant fluctuations in DMC such as patients with manic symptoms and substance misuse were particularly impacted. Several informants described an increased responsibility and burden for family following the introduction of DMC. Conclusion: Several changes in mental healthcare post-2017 were attributed to the new DMC criterion due to biased perspectives on developments e.g. an increased number of readmissions ultimately proved to be inaccurate. Other factors both within mental healthcare and society at large must be considered when assessing the impact of introducing DMC as a criterion for involuntary admission and treatment. Additionally experiences with a DMC criterion should be viewed in conjunction with its inadequate implementation including



insufficient training absence of validated tools and overly strict legal interpretation. Inadequate implementation of DMC may have rendered the use of formal coercion more flexible than before 2017 in the face of other changes e.g. a reduced number of available inpatient beds. The 2017 amendments also mandated formal coercive measures when incompetent patients did not resist admission or treatment. The threshold for accessing healthcare to patients with severe mental illness seems to have been altered beyond the DMC criterion possibly leading to an increase in the use of coercion – contrary to the objectives of the legislative amendments. Thus the post-2017 increase in coercive use might be related to several factors in addition to introducing DMC.

Sunday May 05

### **Impact of the Covid-19 Pandemic on College Student Acute Care Psychiatric Visits at a Public University**

*Monica Feliz Castillo M.D.;M.S.; Elizabeth Hitchcock LCSW; Kristen Duarte PhD; Savita Bhakta MD DFAPA*

Introduction Mental health concerns among college students were on the rise prior to the COVID-19 pandemic and the exacerbation by the pandemic resulted in a youth mental health crisis. As colleges transitioned from remote to hybrid to in-person courses due to the pandemic students experienced disruptive changes to educational plans academic performance career goals finances and living situations. College campuses reported increasing rates of mental health service requests during- and post-pandemic. Importantly high utilization of emergency rooms and inpatient psychiatric hospitals is associated with high risk of morbidity and mortality in college students while timely

outpatient mental health follow-up after acute care visits (ACVs) are linked to fewer repeat ACVs improved function and increased treatment adherence. We conducted a retrospective analysis of the impact of the pandemic on college students' ACVs and mental health follow-ups during the pandemic (2021-2022) and post-pandemic (2022-2023) and compared with published pre-pandemic (2017-2019) ACVs. Methods Mental health ACVs were systematically tracked pre- during- and post- pandemic at the University of California - San Diego. College students who presented to the emergency room or urgent care or who were hospitalized for psychiatric reasons were tracked by a licensed social worker. Safety check-ins were conducted with these students within 72 hours of discharge and they were scheduled for outpatient psychiatrist appointments within 5 business days. Demographics clinical presentation utilization patterns and rates of mental health follow-up were analyzed across academic years 2017-2019 (Galles et al. 2023) 2021-2022 and 2022-2023. Results Ages of students ranged from 17 to 56 years old. ACVs doubled from 231 pre-pandemic over two academic years 2017-2019 to 232 ACVs post-pandemic in academic year 2022-2023. Similarly the percentage of students with ACVs connected to follow-up care increased from 50.6% over 2 years pre-pandemic to 59% in one academic year post-pandemic. Pre-pandemic 67.5% of ACVs were for suicidal ideation which dropped to 53.5% during-pandemic and 61% post-pandemic. However ACVs for self-harm behavior overdose depression anxiety psychosis and substance use presentations exponentially increased during- and post-pandemic compared to pre-pandemic. Conclusion Increased rates of ACVs during- and post-pandemic relative to pre-pandemic add to

accumulating evidence that the pandemic exacerbated student mental health and underscore the need for early mental health screening in students upon matriculation to college. More campuses may benefit from implementing a model of having a liaison between acute and outpatient settings and offering rapid access to outpatient mental healthcare access following ACVs to improve student well-being and functioning and to prevent recurrent ACVs.

Sunday May 05

### **Literature Review of the Relationship of ADHD and Creativity**

*Drew Fleming*

Background: Receiving a diagnosis of ADHD is for many similar to having been sentenced to a less than optimal life. A life in which they must learn to compensate either medically or behaviorally for a mainstay disorder largely associated with addictive personality risk-taking behavior and comorbidity. However consistent across the research domain of ADHD is acknowledgement that there are some positive aspects of ADHD. This literature review evaluated one of the most commonly reported positive aspects of ADHD creativity. Methods: 20 research publications were reviewed for their discussion of the intersection of ADHD and creativity. Google scholar served as the search engine and the parameters used were the search terms “ADHD” “creativity”. These research publications were chosen based on their noted acknowledgment of a relationship between ADHD and creativity in the conclusion section of each paper. Results: In the majority of the research articles there is discussion of the presence of ADHD and the direct acknowledgement of higher performance on creative tasks as a possible

by-product of the disorder. There is frequent discussion of high scores of ADHD students on the alternative use tasks measure considered by most researchers to be a strong test of divergent creativity. The few that do not directly acknowledge the connection introduce discussion of the need to further entertain an indirect relationship between ADHD and creativity. Several of these studies further differentiate linear from nonlinear thinking and imply that nonlinear thinking is a positive attribute of the diagnosis as it predisposes one to creative thought processes. Also common is the differentiation of divergent from convergent creativity and the recurring stance that the ADHD population tends to perform very strongly on divergent tasks of creativity but inversely on tasks of convergent creativity. Conclusion: Many articles in the last five years substantiate a connection between creativity and ADHD. More specifically there are trends to acknowledge the difference between divergent and convergent creativity recognizing the ADHD population to perform superiorly on tests of divergent creativity. Consistent across many articles is the tendency to state that people with ADHD have creative insights and that this association needs to be further explored. The majority of the articles discuss the use of subjective assessment of creativity such as the alternative use task index. Very few articles have captured a way to identify creativity in the ADHD population aside from subjective assessments.

Sunday May 05

### **Low dose Naltrexone any unexplored role in managing excoriation disorder?**

*Xiaofeng Yan M.D. Ph.D.; Kevin Varghese; Fei Cao*

Background: Excoriation (skin-picking) disorder (ED) is a psychogenic condition characterized by recurrent picking at the skin which results in skin lesions and significant functional impairment. Patients are often aware of their behavior but are unable to stop leading to feelings of shame and a lack of control. Skin-picking can occur at multiple body sites including the face hands arms and legs. Onset typically occurs during the peri-pubertal period and it is more common in females. Established treatments include selective serotonin reuptake inhibitors N-acetyl-cysteine and adjuvant cognitive-behavioral therapy however treatment outcomes are often unsatisfactory. Low-dose naltrexone (LDN) has been successfully studied as an immunomodulatory and anti-inflammatory therapy in various dermatologic conditions including psoriasis systemic sclerosis and lichen planopilaris among others. LDN is an appealing treatment option due to its minimal side effects low potential for abuse and cost-effectiveness. There have been reports of self-abusive behavior reversal with high-dose Naltrexone (HDN) resulting in reduced skin picking and pruritus. This suggests a hypothesis that HDN works by blocking the endogenous reward from the release of opioids which may occur with excoriation. However there have been no reports of using LDN in managing excoriation disorder. Case description: We present the case of a 51-year-old female with a history of depression fibromyalgia and ED who sought evaluation at a Pain Medicine clinic for her uncontrolled fibromyalgia. Her medication regimen included Gabapentin 1200 mg PO TID. She had previously undergone various medication trials to manage her fibromyalgia depression and ED including Pregabalin Duloxetine Milnacipran Amitriptyline Venlafaxine Sertraline Fluoxetine etc. without experiencing significant benefits. She

initiated treatment with Naltrexone at a dose of 4.5 mg PO daily with the intent of managing her fibromyalgia. Unexpectedly during the follow-up visit two months later the patient reported a significant decrease in her skin-picking behavior (approximately an 80% reduction according to the patient's report) with significantly reduced compulsion to itch her skin and enhanced healing of existing lesions. Interestingly when LDN was temporarily suspended for elective surgery due to opioid use during the perioperative period her skin-picking behavior returned. However her skin picking decreased and her lesions significantly improved once she resumed the medication further confirming LDN's effects on her ED. Conclusions: The effectiveness of LDN in our case suggests its potential role in managing excoriation disorder possibly due to its immunomodulatory and anti-inflammatory effects. Due to its overall better safety profile including fewer drug-drug interactions and improved tolerance we believe that LDN might play a significant yet unexplored role in treating ED.

Sunday May 05

### **Most common causes of nonpsychiatric hospitalizations in patients with schizophrenia in the United States.**

*Akash Venkataramanan; Jonathan Kaplan*

Introduction: Patients with schizophrenia (PS) die much earlier than the general population and this is mainly due to medical illness. Understanding the most common causes of hospitalization in patients with mental illness could provide clues on how to improve preventive health monitor adverse effects of medications and provide better in-hospital care. With these objectives in mind we utilized a national database to perform a

retrospective analysis which aims to identify the most common reasons for medical admissions for patients with schizophrenia. Methods and materials: Data was compiled from the National Inpatient Sample (NIS) database between 2016 and 2019. The NIS tracks state-level data on inpatient hospitalizations covering more than 97% of the population. We excluded hospitalizations involving patients less than 18 years of age. The 10 most common primary diagnoses for admission of patients with schizophrenia and patients without schizophrenia were obtained through analysis of the database. A multivariate logistic regression was then performed to look at how schizophrenia affects the odds of being admitted with each of the primary diagnoses. To truly understand non-psychiatric causes of admissions for patients with schizophrenia we analyzed proportions of each diagnosis and odds ratio for admission after excluding admissions for schizophrenia. Similarly obstetric causes of admission were excluded in the non-schizophrenia group to better compare the two groups as patients with schizophrenia are known to have lower fertility. Characteristics of patients of each diagnosis with and without schizophrenia were compared. Outcomes of hospitalization such as total hospitalization charge length of stay and in-hospital mortality were also compared. Results: Schizophrenia related diagnoses accounted for 35% of admissions and other causes for admissions accounted for 65% of admissions in patients with schizophrenia. Sepsis COPD exacerbation acute renal failure pneumonia urinary tract infection and hypertensive heart failure were present in the top 10 diagnoses for admissions in both groups. Hyponatremia aspiration pneumonia and acute hypoxic respiratory failure were notably absent in the patients without schizophrenia group. NSTEMI and osteoarthritis of the knee were

absent from the schizophrenia group. PS were found to have significantly higher odds of being admitted for most of the medical illnesses except for heart failure with chronic kidney disease NSTEMI and knee osteoarthritis. PS were found to be less likely to die from sepsis acute hypoxic respiratory failure and aspiration pneumonia. PS also had significantly longer lengths of stay for all diagnoses and higher total hospitalization charges for most diagnoses. Conclusions: Our results can guide future directions for targeting disparities in healthcare for patients with schizophrenia and illustrate possible areas of research.

Sunday May 05

### **National and Geographic Analysis of Changes in Medicare Reimbursement for Psychiatric Procedures from 2013-2022**

*Ezra Smith BS; Carson Bateman BS;  
Alexander Dorius MBA; Yasin Ibrahim MD*

Introduction: In recent years Medicare reimbursement for many medical procedures has been declining despite yearly increases in Original Medicare enrollment. This is in spite of a mental health crisis in the United States that calls for more mental health resources as opposed to less. Conducting a geographical analysis of Medicare reimbursement trends for psychiatric procedures across the United States is critical to identify the locations where psychiatrists are at risk for being most affected now and in the future as patients in these locations could become prone to declining access to care. Methods: Changes in Medicare reimbursement for psychiatric procedures were calculated for all U.S. states from 2013 to 2022. The Current Procedural Terminology (CPT) code range for psychiatric procedures was acquired from the American

Psychiatric Association (90785-90899). The reimbursement for each CPT code for a given state was identified with the Medicare Administrative Contractor codes. An index of the specified codes was used and weighted by their gross revenues to determine price fluctuations by state. An inflation-adjusted yearly percent change was calculated using the consumer price index for each U.S. state. Results: From 2013 to 2022 the national average yearly inflation-adjusted change in Medicare reimbursement was -0.17%. The states most impacted were Illinois (-0.75%) Michigan (-0.50%) Kansas (-0.35%) Wyoming (-0.33%) and Florida (-0.30%). The states impacted the least were Washington (0.35%) Massachusetts (0.23%) Texas (0.07%) Alabama (-0.01%) and Oregon (-0.02%). Procedures such as group psychotherapy (90853) psychotherapy without medical evaluation (90838) and electroconvulsive therapy (90870) have been the most impacted by declining reimbursements. These procedures have average yearly changes of -2.93% -2.85% and -2.74% respectively. The figure below gives a visual representation of the average yearly changes in reimbursement by state where the colors of the states represent the average percent changes according to the key. Conclusion: Our study shows that the changes in Medicare reimbursement rates for psychiatric procedures differ between U.S. states with some states being more affected than others. Differences in reimbursement rates can potentially encourage psychiatrists to practice in certain states leaving patients in other states with an inadequate number of psychiatrists. Further research is needed to identify how the care of patients in negatively impacted states could be harmed by these trends. Because of this patients and physicians alike must advocate for adequate Medicare reimbursement to ensure that

patients across all states have access to quality mental health care.

Sunday May 05

### **Neuropsychiatric Syndromes in Fahr's Disease: A Diagnostic and Therapeutic Challenge; Literature Review in Relation to a Case Report.**

*NYNNY GUTIERREZ residente de psiquiatría en el hospital universitario; Alfredo Bernardo Cuellar-Barboza; Guillermo Medina profesor del departamento de psiquiatría UANL; Antonio Anaya-Escamilla neurólogo; Mariana Mercado profesora en departamento de radiol*

Objective: This study highlights Fahr's disease as a significant differential diagnosis for neuropsychiatric syndromes. First described in 1855 it's characterized by neuropsychiatric symptoms linked to basal ganglia calcifications. Methods: We present the clinical case of a patient evaluated and treated at the Psychiatry Department of the Dr. José Eleuterio González" University Hospital of the Autonomous University of Nuevo León. The patient approved the presentation of her clinical case through informed consent. Also we provide a literature review about this disease its neuropsychiatric implications and treatment strategies. We used search terms such as Fahr's Disease Fahr's Syndrome neuropsychiatric symptoms intracerebral calcification and basal ganglia calcification in PubMed MedLine EMBASE and PsycINFO databases. The review included studies published from 2019 to August 2023. Case Presentation: A 37-year-old woman with no relevant family history was evaluated. In the three years preceding her visit to our department she received multiple psychiatric and neurological diagnosis that were



refractory to treatment with psychotropic drugs electroconvulsive therapy and other interventions. At the time of evaluation the patient exhibited mood fluctuations sadness anxiety impaired memory insomnia intention tremor in the upper limbs vocalization difficulty and facial expressionlessness. Physical examination revealed tremor and rigidity in the cogwheel of the upper limbs generalized hyperreflexia micrographia dysarthria festinating gait and normal laboratory tests. A simple brain MRI showed calcifications in both putamen caudate nuclei thalami pontine tegmentum dentate nuclei and subcortical level predominantly in the occipital and cerebellar regions. This was confirmed with a simple skull CT scan which identified widespread cortical and juxtacortical involvement both supra and infratentorial. Literature Review Results: about 12% of brain scans detect idiopathic calcifications when these findings correlate with neuropsychiatric symptoms Fahr's disease should be suspected however any metabolic endocrine or organic disorders that could explain such symptoms should be investigated the treatment remains primarily symptomatic. However there have been explorations into potential treatments with bisphosphonates and vitamin D which have shown to reduce mortality in individuals with Fahr's disease. Conclusions: Upon the diagnosis of Fahr's disease secondary causes of cerebral calcinosis must be discarded. Treatment is symptomatic. Seeking genetic counseling is important although the prognosis is discouraging."

Sunday May 05

### **Non-communicable disease risk factors in patients with major depressive disorders**

*Shubh Singh M.D.;M.B.B.S.; Arnab Pal*

Introduction: Non-communicable diseases (NCD) are usually chronic diseases which result from a combination of genetic physiological environmental and behavioral factors. NCDs are increasingly recognised as significant contributors to morbidity and mortality in developing and developed countries. NCD risk factors can be thought of as variables associated with an increased risk of developing an NCD. NCD risk factor (NCDRF) screening has become prominent owing to the burden of NCDs. WHO STEPS is one such screening method. Major depressive disorders (MDD) and NCDs seem to share a bidirectional relationship. However data regarding NCDRF is biased towards severe mental illnesses. This study was carried out to assess patients with MDD for NCDRFs based on the WHO STEPS framework. Methods: The study protocol was approved by the Institute ethics committee and was carried out in patients attending the outpatient psychiatry clinic of a tertiary hospital in North India. 200 patients (120 males and 80 females) aged 18-69 years with a diagnosis of MDD (not severely depressed at time of assessment) were assessed for socio-demographic and clinical profile and NCDRFs derived from the WHO STEPS framework. Assessment included behavioral profiling physical measurements and measurements of biochemical parameters. Data were analyzed. Results: The results indicated that patients with MDD had significant NCDRFs including current and lifetime tobacco and alcohol use unhealthy dietary patterns low levels of physical activity obesity as indicated by body mass index and waist circumference hypertension and deranged lipid profiles. Results were broadly comparable to epidemiological data in the general population that has been published elsewhere. Conclusions: NCDRFs may contribute to increased morbidity and

mortality seen in MDDs. Assessment of NCDRFs and modification of eligible risk factors should be included in the management of patients with MDD.

Sunday May 05

### **Primary and Specialty Care Engagement Prior to Psychosis-specific Care in Maine: A Pilot Project**

*Emma Millard M.D.; Kinza Hussain; Elizabeth Bernier; Kristen Woodberry*

Background: While acute care settings are often the first touchpoint for individuals with psychosis primary care settings may be an opportunity for early detection and linkage to care. This analysis examined the degree to which a pilot sample of patients had contact with primary care between the onset of psychosis prodrome and the initiation of psychosis-specific treatment known as the duration of untreated illness (DUI).

Methods: Electronic healthcare data were collected from adolescents and young adults with symptoms consistent with a psychotic disorder or clinical high-risk syndrome who participated in a study of pathways to care in Maine. They were recruited from MaineHealth's emergency room as well as the PIER Program Maine's only coordinated specialty care program. The onset of prodromal syndromes acute psychosis and psychosis-specific care was determined by trained clinical interviewers and consensus review. Information was collected on the number/type of diagnoses at primary care visits the number/type of diagnoses at specialty care visits documented referrals to mental health and the number/names of psychiatric medications. Results: This analysis included five individuals with complete medical records (mean age = 20.5; 50% female). The average time between

prodrome and psychosis-specific care was 60.4 months with the shortest DUI at 53 months and the longest at 72 months. Between the onset of the prodrome and the most appropriate psychosis-specific care only 40% of patients engaged with primary care while 60% engaged with specialty care including mental health clinics. At primary care visits mental health diagnoses of behavioral change adjustment reaction bipolar disorder anxiety and post-traumatic stress disorder were identified but psychosis-related illnesses were not identified. At specialty care visits mental health diagnoses of attention deficit hyperactivity disorder autism spectrum disorder and psychosis were identified. During this timeframe 40% of patients had documented referrals to mental health care and 100% of patients received psychiatric medications. Conclusions: In spite of advances in the early detection and intervention of serious mental health disorders there are long delays and thus many missed opportunities in diagnosing individuals with psychosis. This pilot study suggests that less than half of the participants had contact with primary care providers between the onset of prodromal symptoms and appropriate psychosis treatment a period of 4-6 years. Even when primary care providers were seen psychotic symptoms were not identified. These preliminary data raise important questions about the potential role of primary care in identifying early psychotic symptoms and highlight the need for strategies and protocols to support earlier detection in these settings.

Sunday May 05

### **Quality of Traditional Media Reporting of Stephen 'tWitch' Boss's Suicide**

*Tina Guo M.D.; Mark Sinyor MD MSc FRCPC*

Background: The Werther effect is the phenomenon by which dissemination of news about a suicide leads to an increase in subsequent suicide rates depending on the content of the media reporting. Media coverage about suicide in notable figures such as celebrities is particularly prone to a Werther effect. This study examines the quality of reporting of Stephen 'tWitch' Boss's suicide in December 2022 based on putatively harmful and protective reporting characteristics identified in previous studies. Methods: Google News and the University of Toronto archives were searched using the keywords ("tWitch" OR "Stephen Boss") AND ("suicid\*" OR "die\*" OR "dead" OR "death") to extract all traditional news articles about tWitch's suicide. Online news consisting only of audiovisual content without transcriptions were excluded. The articles were coded according to whether they contained 59 variables pertaining to suicide including putatively harmful and protective characteristics identified from previous studies details pertaining to tWitch's suicide and a gestalt narrative code for each article referring to the overarching message or focus of the article. Coding is currently in progress and full data will be available at the time of the conference. Results: A total of 1609 articles were collected. Of those 1139 were published in the USA; 678 were published on December 14 2022 the day immediately after tWitch's suicide. Of the 1220 articles that have been coded thus far the most common putatively harmful characteristics included identification of tWitch as a celebrity (n=1170) a photo of tWitch (n=1153) interviews with or quotations from the bereaved (n=1105) and favourable characteristics of tWitch (n=1104). The most common putatively protective characteristics included identification of alternatives to suicide (n=690) statements encouraging

those in need to seek help (n=675) and crisis resource information (n=674). A majority (n=1054) of the articles had a gestalt narrative focusing on suicide whereas 38 31 and 97 articles focused on survival another positive message or a neutral message respectively. Discussion: As expected the Stephen 'tWitch' Boss media event was characterized by articles with a gestalt narrative focusing on suicide with very few accompanying articles emphasizing survival or other positive messages about suicide and its prevention. The fact that key putatively protective elements were present in about half of all articles is somewhat encouraging. Nevertheless this media event has the characteristics often seen in celebrity suicides prompting Werther effects. Future directions for this study include comparison of the quality of reporting between different geographical regions around the world and most importantly an investigation of the association with subsequent suicide rates.

Sunday May 05

### **Save the Mind Body and Planet: Psychiatrists' Role in Addressing Climate Refugee Mental Health**

*Aditi Agrawal M.D.; Raman Marwaha M.D.;  
Madhuri Jakkam Setty M.B.B.S.; Grace An  
M.D.*

Introduction: The most feasible adaptation strategy for frequent climate crisis events which is our new reality is climate-induced migration leading to climate refugees (CR). A CR is a person who has been forcibly displaced due to the effects of climate change. The United Nations High Commissioner for Refugees (UNHCR) reports a rise in climate refugees. By 2050 at least 1.2 billion people could be displaced. CRs face extreme distress from various

biopsychosocial stressors including the loss of livelihood homestead and culture which can lead to psychiatric problems. This review aims to understand the impact of climate-induced migration on mental health promote awareness and advocate for inclusive psychiatric care. Methods: We performed a systematic literature search on Pubmed and Google Scholar from 2011 to 2023 using keywords “climate change refugee” “mental health” “climate migration” and “psychiatry.” Results: Studies show that climate change causes trauma from displacement causing pre- and post-traumatic stress disorder extreme anxiety depression and substance use. Climate change migration disrupts social ties and negatively impacts mental health with increased feelings of isolation. There is a causal association between violence and aggression and extremely high temperatures and precipitation. An exploratory case study showed that migrants perceived mental health as important but prioritized physical health concerns pointing to need for awareness initiatives among refugees to promote mental health care seeking behaviour. Education advocacy and collaboration with multidisciplinary teams are critical to mitigate the crisis. Research highlighted that proactive approaches and solutions are needed for the population at risk of climate displacement due to its association with high pre-traumatic anxiety. Vulnerable population groups included the elderly women children disabled indigenous peoples and those in a lower socioeconomic status or working outdoors. These groups require additional targeted measures. Telemedicine effectively increased access to psychiatric care and further research regarding appropriate settings for its use and methods to establish standard of care is needed. Conclusion: CRs face unique challenges with pre-traumatic and post-

traumatic stressors and loss of identity culture and social connections. They are vulnerable as they face barriers to accessing basic human rights including healthcare education and employment. Recognition of CRs through political reform and mental health resources is essential. Education and engagement are critical to fostering a global sense of responsibility and solidarity and providers must increasingly utilize culturally appropriate mental health care. Global cooperation and policy intervention community involvement and professional training in providing trauma-informed culturally inclusive accessible care for climate refugees are essential.

Sunday May 05

**The Crossroads of Military Psychiatry:  
Balancing patient privacy and trust with  
duty to uphold the mission and national  
security.**

*Kaitlin Snyder M.D.; Richard Maguire M.D.;  
Heather Shibley M.D.; James Hegarty D.O.*

A 38yo male presented to psychiatry after endorsing suicidal ideation in the setting of excessive fear that he was being investigated for an act of spillage - when classified information or controlled unclassified information (CUI) is transferred onto an information system not authorized for the appropriate security level or not having the required CUI protection or access controls. The patient feared he was soon going to be apprehended and prosecuted for treason under the Espionage Act. In your average civilian patient such concerns may quickly be seen as an obvious delusion. He however was not your average patient. This patient was an active-duty service member working in the cybersecurity field with a top-secret security clearance and access to classified materials.

While fitness for duty is something that any psychiatrist may be asked to do from time to time it is part of every appointment for a military psychiatrist. If a patient reveals an incident that could compromise national security military psychiatrists must walk the line between maintaining patient privacy and their duty to inform command. If this service member has special duty requirements such as a security clearance working regularly with classified information maintaining confidentiality may result in harm to national security. Department of Defense instruction 6490.08 outlines when a military medical provider must break that confidentiality not only if there is threat of harm to self or others but harm to the mission as well. If a service member's ability to maintain a special duty status is called into question military psychiatrists may be asked to evaluate a service member to aid the Defense Counterintelligence and Security (DCSA) Consolidated Adjudication Services if determining in that service member can obtain or maintain their security clearance. It is the goal of the authors to create a dialogue and educate non-military psychiatrists regarding the duty to inform commands of certain patient information and the process of reviewing special duty statuses in individuals with a mental health concern.

Sunday May 05

### **The tragedy of forced deinstitutionalization due to the pandemic**

*Boung Chul Lee MD; Joo Eon Park*

The Republic of Korea's forced deinstitutionalization began with the coronavirus. After the initial outbreak occurred in a psychiatric hospital opinions emerged that the crowding of 10 beds per unit made infection control difficult. In order to

reduce the density of patients and at the same time reduce the number of psychiatric beds all psychiatric hospitals had to reduce the number of beds per unit from 10 to 8 before March 2021. Subsequently a policy was implemented to reduce the number of beds from eight to six by January 2023. With insufficient preparations for deinstitutionalization during the corona period the forced 20% reduction has had serious side effects. We used national health insurance claims data to compare the composition of discharged patients during and after deinstitutionalization. During deinstitutionalization period in 2021 patient discharge was increase about 23.2% on average from the previous period. Approximately 30000 additional patients had been discharged. Before this process people thought chronic elderly inpatient who does not need medical care would be major portion of discharge group. However we compared discharged patient group during this deinstitutionalization with patient group after downsizing hospitals. Among patients who were discharged during the deinstitutionalization period patients aged 60 or younger were 25.35%p more than comparison. The rate of Medicaid was also low at -5.35%p. Additionally for serious hospitalized disease the rate of patients with schizophrenia and mood disorders were higher 8.2%p and 17.39%p each in deinstitutionalization period group. These findings can be interpreted as indicating that more young seriously ill patients rather than chronic patients are being discharged from the hospital. After that crimes committed by mentally ill people became an issue in broadcasts. Comparing inmates in 2021 with 2020 the number of inmates receiving mental health medicine and telemedicine increased to 34.4% and the number of inmates attending external hospitals for mental health



treatment increased to 55.4%. There was a 13.6% increase in suicide cases and suicide accidents within correctional facility. We think this change could be indirect effect of unprepared abrupt deinstitutionalization.

Sunday May 05

### **Transcranial Pulse Stimulation (TPS) – New Perspectives in Treatment of Dementia in Alzheimer´s Disease?**

*Cassandra Penkov; Vanessa Röbner-Ruff; Daniel Clark; Christina Hauser; Marc Ziegenbein*

Background: Dementia is one of the most common mental illnesses. The impairment of a normal symptom-free life according to DALY is next to depression the second most pronounced with deficits in social and everyday behaviour. Early and adequate treatment is of high relevance. Dementia in Alzheimer's disease is often associated with depressive symptoms. A psychiatric clinic in Lower Saxony (Wahrendorff clinic Germany) has focused on treating patients with this diagnosis as early as possible on an outpatient basis. For this purpose TPS is used. With the aim of releasing growth factors and contributing an improvement in cerebral blood flow low-frequency sound pulses are introduced into brain regions in order to promote and maintain cognitive performance. Some studies have found positive effects although more research is needed. The aim of the current study is to investigate the development of cognitive performance and depressive symptom severity over the course of treatment with TPS focus on the question if there is an improvement. Methods: Cognitive performance (Montreal Cognitive Assessment MOCA) and depressive symptom severity (Geriatric Depression Scale GDS) are

assessed at the beginning of the treatment (t1) and every three months during the course of treatment from patients with a diagnosis of Dementia in Alzheimer's disease who have undergone treatment with TPS since June 2021 (n = 80) in the outpatient setting of Wahrendorff clinic. In this study a follow-up until 9 months of treatment (t3) should be considered. Results: Analysis of variance with repeated measurement show a minimal increase in mean values of MOCA from the different measurement points without statistical significance (mean value MOCA t1 = 1294 vs. t2 = 1305 p n.s.). Analysis of variance with repeated measurement show that there is a statistical significant difference in the mean values of GDS from the different measurement points with a decrease of depressive symptom severity (mean value GDS t1 = 891 vs. t2 = 672 p ? .05). Conclusion: Results suggest that TPS could lead to maintaining the cognitive performance of patients with Dementia in Alzheimer's disease over the course of treatment. Furthermore treatment with TPS could lead to an improvement of depressive symptom severity. The TPS might be helpful in the treatment of Dementia in Alzheimer's disease and its symptoms and might give new perspectives in the treatment especially as patients report high treatment tolerance and few side effects. Further data should be collected so the study is being continued and not yet concluded.

Sunday May 05

### **Utilization of naltrexone for hypersexual obsessions and compulsions: two case reports and brief review**

*Dora Mell MD; Alice Hou; Mohan Gautam D.O.;M.S.; Nikita Lee*

Background. Obsessive compulsive disorder (OCD) is a highly studied psychiatric disorder and treatments such as exposure and response prevention have been well documented to help alleviate obsessive thoughts and compulsive behaviors. However in OCD patients with obsessive hypersexual thoughts and compulsions this therapy may be less effective and longer treatment periods may be necessary. Additionally serotonin reuptake inhibitors (SRIs) which serve as the standard initial pharmacological treatment of OCD often take weeks or months to take effect. This leads to prolonged patient suffering especially in patients with sexual obsessions who have been found to be more treatment resistant than other OCD patients. Initiating dual medication therapy with both a SRI and naltrexone in patients with OCD with hypersexual obsessions and compulsions may alleviate symptoms faster. Cases. Two patient cases were studied at an inpatient psychiatric hospital in the Midwest. Both patients were admitted for suicidal ideation secondary to severe recurrent hypersexual obsessions. Patient A was suffering from constant distressing sexual obsessions and compulsions in addition to a pornography addiction. Patient B reported obsessions focused on both sex with children and incest neither of which he had ever acted upon. Both patients were initiated on both a SRI as well as a starting dose of naltrexone. Upon initiation of this medication combination both patients reported significant improvement in symptoms of obsessive hypersexual thoughts within a day. Because SRIs typically take weeks to months to alleviate symptoms of OCD it can be assumed that naltrexone which has been noted in past literature to have fast onset of action to alleviate symptoms of addiction contributed to the significant subjective decrease in distressing symptoms of hypersexual obsessions. Discussion. Due

to the growing anecdotal evidence showing the positive effects of naltrexone in treatment of obsessive sexual thoughts and compulsions more randomized controlled trials need to be conducted to fully evaluate the efficacy and safety of the drug as both a monotherapy and augmentation.

Sunday May 05

### **What's all that shaking about? Understanding myoclonic jerks as a psychiatrist.**

*Namita Arboleda M.D.; Rubiahna Vaughn*

Background: Myoclonic jerks are sudden brief and involuntary muscle spasms. They are distinguishable from tremors due to their lack of rhythmicity and from tics due to their insuppressible nature<sup>1</sup>. While positive myoclonus is due to abrupt muscle contraction negative myoclonus is due to interruption of muscle contractions and is typically associated with toxic metabolic causes<sup>2</sup>. Workup includes laboratory tests but then may also require head imaging lumbar puncture and electroencephalography (EEG). The differential work-up and treatment of myoclonus is an essential skill for a psychiatrist given its multifactorial nature and association with numerous psychotropics. Results: Here we propose a helpful infographic and mnemonic for the assessment of myoclonus using illustrative case examples. Discussion: While many psychiatric medications including antipsychotics such as clozapine have been associated with myoclonic jerks<sup>3</sup> they are a non-specific finding that require thorough investigation. If associated with other neurological symptoms myoclonus may be due to underlying disease such as epilepsy genetic disorders or other syndromes.

However acute or subacute myoclonic jerks are more typically associated with systemic illness which can be caused or worsened by medications<sup>1</sup>. It's also important to note that while myoclonic jerks can be difficult to definitively diagnose they can ultimately be precursors to tonic-clonic seizures<sup>4</sup>. Our cases illustrate the complex nature of myoclonic jerks that may sometimes be multifactorial in etiology. Our infographic aims to aid psychiatrists in their identification and understanding of myoclonus as they may interface with patients who experience this symptomatology. Furthermore as psychiatrists routinely work with the serious mentally ill advocacy to obtain proper medical workup is crucial when myoclonus is present to avoid assumptions based on psychiatric medications alone.

Conclusion: Psychiatrists should recognize the multifactorial nature of myoclonic jerks basic workup and associated psychiatric medications.

Sunday May 05

### **A Retrospective Review of the Effectiveness of a Fall Evaluation Checklist Implemented in Inpatient Psychiatric Units**

*Namritha Manoharan D.O.; Tara Krog; Samuel Hand; Gilbert Ramos; Bikash Bhattarai*

Background: Approximately 700000 people fall in hospital settings in the US annually. The incidence of falls in inpatient psychiatric units are noted to be much higher than hospital medical units. The mortality increased cost extended length of stay and considerable morbidity resulting from falls and trauma from falls make this a significant metric for many hospital systems. A Fall Evaluation Checklist (FEC) was developed to track and potentially decrease the number of fall events at Valleywise Behavioral Health Center in

Maricopa County Arizona. This investigation's aim is to assess the impact of the FEC on primary and recurrent fall rates in inpatient psychiatry. Methods: The FEC was implemented in February 2021 on adult psychiatric units at Valleywise Behavioral Health Center. Investigators reviewed nursing fall event reports and the electronic medical record reports of all admitted adult patients from January 2020 to March 2022. Patient falls were manually sorted as one two or recurrent falls for the 13 months occurring prior to or 13 months post FEC implementation (excluding Feb 2021). Frequency of all falls and the rate of recurrent falls between the two periods were compared using chi-square test analysis. Injury levels and demographics were also compared between the two periods of assessment. Results: A total of 5799 and 5437 admissions were included from the pre- and post-FEC. There were 411 fall occurrences in the pre-FEC period among 291 patient stays (fall rate of 5.02%). In the post-FEC period there was a total of 477 recorded fall events among 309 patient stays (rate of 5.68% P=0.117). Comparing the secondary falls the rate was higher at 28.16% in the post-FEC as compared to 24.74% in the pre-FEC. Among patients who did experience falls 22.87% of falls resulted in an injury in the pre-period vs. 25.3% in the post-period (P= 0.387). Comparing injuries themselves 2.76% of falls resulted in major or moderate injuries in the pre-FEC compared to 4.56% in the post-FEC period (P= 0.211). Conclusion: Analysis revealed that the fall rate did not reduce after the implementation of the FEC in the post-period. Although the current p-values are not significant the difference between the two time periods for primary or secondary falls does not appear to be significantly high and the change in the rate of falls seem to be <1% and <4% for single and secondary falls

respectively. Many factors including manual recording errors confinement and quarantine procedures during the COVID-19 pandemic may have influenced fall documentation and results.

Sunday May 05

### **A systematic review to assess the use of psilocybin in the treatment of headaches**

*Tavneet Walia; Vivian TSANG MD MPH*

Introduction: Psilocybin is a naturally occurring psychedelic compound whose effects have been seen in studies for treatment of depression anxiety and pain management. Given its structural similarities to 5-hydroxytryptamine a monoamine controlling brain modulation of pain input preliminary studies sought to test the pain-alleviating properties of psilocybin for the treatment of headaches. Objectives: This systematic review explores the efficacy of psilocybin as treatment for individuals with headaches defined in this review to include migraines essential headaches cluster headaches and unclassified head pains. Methods: Six major databases were searched with inclusion criteria consisting of human participants with any type of headache using psilocybin as a treatment. Each study was independently screened by two reviewers at two stages with inconsistencies reviewed by a third senior reviewer. Results: In total 393 articles were found through database searching and 10 were included in analysis. With psilocybin as treatment one study reported a decrease in headache frequency three studies reported a decrease in intensity and one study indicated a decrease in both frequency and duration. In one study psilocybin increased the average length of remission between headaches for 91% of participants. Conclusions: Improvements to

headaches were reported to be clinically significant in five studies and statistically significant in three studies. However psilocybin remains illegal in many countries presenting both the difficulty and imminent need for further regulated research.

Sunday May 05

### **Antipsychotics and Covid-19: treating psychotic disorders during the pandemic and beyond**

*Xavier Boland M.B.B.S.; Luiz Dratcu M.D.;Ph.D.*

Patients with psychotic disorders have not fared well during the Covid-19 pandemic. Medical comorbidity social-economic disadvantage and high rates of smoking and obesity have all been implicated as factors for worse outcomes to Covid-19 in this patient group as compared with the general population. Whether treatment using antipsychotics might increase patients' vulnerability to Covid-19 has also been the subject of debate potentially calling into question standard prescribing practices during a crisis. Method: Our 20 bedded inner-London all-male acute psychiatric inpatient unit has an annual throughput of approximately 250 patients and has remained fully operational throughout the pandemic. All of our patients are of working age and most have a diagnosed psychotic disorder for which they are prescribed antipsychotic treatment. There is also a high rate of medical co-morbidity (>60%). We carried out a retrospective study of all acutely unwell patients with psychotic disorders admitted over a twelve month period during the pandemic (March 2020-March 2021) prior to the introduction of Covid-19 vaccines. We monitored for the occurrence of Covid 19-related medical complications and deaths.

Results: None (N=0) of the patients under our care who contracted Covid-19 during the period of the study suffered any complications of Covid-19 requiring medical intervention and all fully recovered from Covid-19. There were no deaths related to Covid-19 during this period. Discussion: Close medical supervision of patients strict adherence to infection control protocols frequent testing of staff and patients and early use of isolation for Covid-19 positive cases will together have contained many Covid-19 associated risks. Also common to all our patients however was the regular use of antipsychotics adherence to which was ensured in the inpatient setting. As reported in other similar observational studies our findings suggest that rather than increase the risk of Covid-19 complications in patients with psychotic disorders antipsychotics may in fact be protective against Covid-19. Firstly effective symptom control with antipsychotics may counter-balance vulnerabilities to Covid-19 associated with untreated psychosis. Secondly and more specific to SARS-Cov-2 infection known anti-inflammatory properties of antipsychotics may play a role in tempering hyper-inflammatory states seen in severe complications of Covid-19. Conclusion: As Covid-19 transitions from a pandemic to an endemic phase it becomes more essential than ever that patients with psychotic disorders have access to the psychotropic treatment they require and receive support in adhering to it. Moreover further research into the immuno-modulating properties of antipsychotics is necessary not only to better understand their function in the treatment of psychotic disorders like schizophrenia but also to explore potential therapeutic applications these may have beyond psychotic disorders alone.

Sunday May 05

### **Association between Lifetime Hallucinogen Use and Valvular Heart Disease: Findings from the All of Us Research Program**

*Miranda Rasmussen; Jaclyn Bergstrom MS; Alison Moore MD MPH; Kevin Yang M.D.*

INTRODUCTION: The relationship between hallucinogen use and valvular heart disease has garnered increasing interest in the medical community.<sup>1–4</sup> Traditional risk factors for valvular heart disease are well-established<sup>5</sup> but recent evidence suggests a potential link between the use of certain hallucinogenic substances and the development of valvular abnormalities hypothesized to stem from activation of the serotonin 5HT<sub>2B</sub> receptor.<sup>1,2</sup> Understanding this potential link will be essential to healthcare professionals researchers and policymakers in formulating effective harm reduction strategies and ensuring safe informed patient care in the context of psychedelic use. METHODS: We analyzed cross-sectional data from the National Institutes of Health All of Us Research Program a large observational cohort study encompassing a diverse US population. We focused on adults aged ≥ 18 who completed the Lifestyle survey including questions about lifetime hallucinogen use (e.g LSD acid mushrooms PCP Special K ecstasy). We excluded participants with congenital heart disease rheumatic heart disease and Marfan syndrome to mitigate pre-existing condition bias. We used descriptive statistics and chi-square tests to compare sociodemographic characteristics other substance use and health conditions associated with valvular heart disease as identified from electronic health records based on lifetime hallucinogen use status. Multivariable logistic regression models were then employed to assess the



association between lifetime hallucinogen use and valvular heart disease adjusting for age sex race smoking status obesity diabetes hypertension and coronary arteriosclerosis. RESULTS: The sample consisted of 399368 adults (mean age 50.9 [SD] 16.8 60.5% female 55.2% White). Among them 11.2% reported lifetime hallucinogen use. These individuals were typically younger male White Non-Hispanic more likely to be divorced or never married employed insured and had some college education (all  $p < 0.001$ ). They had fewer health conditions including valvular heart disease (3.6% vs. 4.6% chi square  $p < 0.001$ ) but were more likely to use other substances in the past year. When adjusting for potential confounders the multivariable models showed a modest but statistically significant association between lifetime hallucinogen use and valvular heart disease (aOR = 1.07 95% CI: 1.01-1.13) ( $p = 0.0236$ ). CONCLUSION: Lifetime hallucinogen use was observed in 11.2% of the AoU sample and was characterized by distinct sociodemographic substance use and health profiles. Despite a lower prevalence of health conditions including valvular heart disease the multivariable analysis indicated a modest but significant association between lifetime hallucinogen use and valvular heart disease. This finding underscores the importance of further exploring the mechanistic pathways and clinical implications of hallucinogen use in relation to cardiovascular health.

Sunday May 05

### **Building a resilient workforce in healthcare: Impact of resilience training in a large urban health system**

*Scarlett Ho PhD; Sydney Starkweather MA; Ryan Primrose MA*

Background: Healthcare workers' (HCW) mental health and wellbeing have received increased attention since the COVID-19 pandemic. Although the pandemic has been declared over HCW continues to experience elevated risk for depression anxiety PTSD and burnout. The Center for Stress Resilience and Personal Growth (CSRPG) at the Mount Sinai Health System developed and offered on-site training to provide HCW with evidence-based strategies to enhance resilience during and after the COVID-19 pandemic. Rooted in prior research these 60-minute workshops help HCW foster resilience by identifying existing strengths learning coping skills for ongoing stressors increased awareness of mental health symptoms that may impact their wellbeing and delivery of care. The resilience workshops focused on modifiable resilience factors including realistic optimism facing fears active coping and self-care. A 15-minute "huddle" training format was developed to reduce training barriers (time requirement workload) for specific workers including security staff and nurses. The huddle curriculum includes psychoeducation modules including psychological first aid substance use depression and suicide risk and managing moral distress. Methods: As of August 2023 CSRPG facilitated 464 workshops and 134 huddles reaching 3750 HCW across both formats. Attendance and work-related demographics (e.g. job role unit) were collected before each session. A brief post-survey was administered after each session. The post-survey assessed self-reported resilience stress and whether the training provided tools to cope with stressors at and outside of work. Descriptive statistics and variability in feedback scores by job role and training format were assessed. Results: Out of N=1712 workshop attendees N=182 were nurses N=667 were medical residents/trainees. Comparatively out of

N=2265 huddle attendees N=444 were nurses and N=107 were security officers. N=888 and N=351 participants completed the workshop and huddle post-survey respectively. Workshop (N=698; 78.6%) and huddle (N=241; 68.7%) participants endorsed that the training gave them the tools to do their jobs well and N=717 (80.7%) workshop and N=240 (68.4%) huddle participants endorsed that the training provided them tools for life outside of work. Workshop and huddle participants also endorsed less stress (N=409; 46.1% and N=179; 51% respectively) and increased resilience (N=456; 51.4% and N=202; 57.6% respectively) post-training. Conclusions: Both the workshop and the huddle formats of training are effective in increasing HCW resilience and well-being. Post-survey scores highlighted the need to tailor the delivery and content of resilience training to the unique needs of different HCW roles. This work was supported by the Health Resources and Services Administration (HRSA).

Sunday May 05

### **Computational Mechanisms of Social Influence on Risky Decision-Making in Alcohol Use Disorder**

*Manjae Kwon M.D.; HeeYoung Seon; Dongil Chung Ph.D.; Young-Chul Jung*

Background: Alcohol Use Disorder (AUD) has been associated with risky behavioral patterns. Whilst real-life decision-making rarely occurs in isolation it remains unclear how social information influences risky decision-making in individuals with AUD. To address this gap we conducted a functional neuroimaging study in conjunction with a computational modeling approach to explore how individuals with AUD process others' decisions when making risky decisions.

Methods: Sixty male participants (30 with AUD and 30 healthy controls [HC]) underwent fMRI scans. During the scan they made a series of choices between a 'safe' gamble (lower payoff variance) and a 'risky' gamble (higher payoff variance) alone ('Solo' trials) and among two other players ('Info' trials). Particularly in Info trials participants observed others' choices before making their decisions. The Info trials included three types: 'risky-risky' where both other players chose risky gambles; 'safe-safe' where both others chose safe gambles; and 'mix' where one player chose safe and one player chose risky gamble. To quantify the influence of social others we constructed a computational model hypothesizing that observing others adds additional utility to the option others chose (Other-conferred utility; OCU) to the decision process. Descriptive and model-based parameters were compared between HC and individuals with AUD. Results: HC and individuals with AUD showed comparable risky choices in Solo trials. Both groups were significantly influenced by others' choices such that they made riskier choices in 'risky-risky' trials compared to 'safe-safe' trials ( $p < 0.05$ ). In Info trials regardless of others' choices HC showed a significantly higher probability of choosing the risky gamble compared with individuals with AUD ( $p < 0.05$ ). Directly comparing the 'risky-risky' trials HC compared to individuals with AUD tended to make riskier choices ( $p=0.086$ ). Individual-level model parameters confirmed that HC indeed placed higher utility on others' risky choices than individuals with AUD did ( $p < 0.001$ ) while the utility influence that HC and individuals with AUD showed was comparable. This pattern was consistent with neuroimaging results. Blood-Oxygen-Level Dependent responses in the ventromedial prefrontal cortex a region associated with

subjective valuation showed significant differences between the AUD and HC groups only for the contrast between trials conformed and not conformed to others' risky choices ( $p=0.05$ ) and not for the contrast involving others' safe choices. Conclusion: Our results from model-based behavioral and neuroimaging analyses highlight a distinct utility conferred from others' risky choices in individuals with AUD. Understanding these differences in social influence among individuals with AUD could be crucial for unravelling the underlying mechanisms of risky behaviors associated with alcoholism. Funded by the Ministry of Health & Welfare South Korea (HI22C0404)

Sunday May 05

### **Designing Effective Wellness Curricula for Psychiatry Resident Physicians**

*Jinal Patel M.B.B.S.; Anetta Raysin D.O.; Sophia Mikityanskiy D.O.*

Background: The demanding nature of psychiatry residency training places significant stress on resident physicians leading to increased rates of burnout depression and other mental health challenges (1)(2). Integrating wellness didactics into residency curricula has emerged as a potential solution to address these issues and promote well-being among residents (3). We aimed to effectively design and deliver key wellness topics through various common scenarios experienced by psychiatry resident physicians while exploring ways to build resilience share resources and discuss available supports. Methods: The wellness talks and didactic sessions were co-designed by the program faculty and residents. The design and structure of the talks were informed by resident focus groups and feedback via group discussions as well

as committee members from the program's anti-racism task force to advocate for the needs of minority and international medical graduate residents. In our didactics we highlighted significant events that can potentially occur during residency such as bereavement physical or mental illness and immigration-related issues to contextualize the key resources and coping strategies shared. We also incorporated information on topics such as hospital policy resident union benefits stress management resilience building and self-care. Additionally debriefs were conducted before and after the didactics with program directors faculty and residents to evaluate their content and effectiveness. Results: We designed a didactics series tailored to the common needs and issues faced by residents. Our approach utilized a combination of lectures and group discussions to improve awareness of key policies and benefits available to residents and access to various resources for support including mental health resources. Feedback collected via post-didactics debriefs and discussions with program directors faculty and residents suggested the initiatives contributed to increased awareness of potential challenges residents may face during training and equipped residents with the tools resources and information they may need during periods of stress adverse life events and burnout. Conclusion: Integrating wellness didactics co-created and co-led by resident and faculty staff into psychiatry residency training is a promising approach to mitigate the negative impact of stress adverse life events and burnout on resident physicians. By addressing the unique challenges and stressors faced by psychiatric residents highlighted by examples of sensitive and emotionally demanding situations these sessions can equip them with essential tools

and resources to navigate the rigors of training while fostering a culture of self-care awareness and support. Simultaneously this helps training directors better understand the needs of trainees and resources available for support while also adhering to the policies and expectations of training programs.

Sunday May 05

### **Differential Expression of microRNAs Associated with Opioid Use in Adults with and without Spinal Cord Injury**

*Dean Wundrach; Katherine Weir; Nguyen Nguyen; Leslie Morse*

Background: The goal of this study is to assess the association of differential expression of microRNA (miR) 92b-5p and 132-3p and current opioid medication use in individuals with and without a spinal cord injury (SCI). Research suggests that over 80% of patients with a SCI experience pain and over 58% classify that pain as severe or excruciating. Additionally in SCI patients increased pain severity has been associated with higher rates of depression and suicide ideation indicating a need for effective pain management. MicroRNAs serve as important biomarkers and molecular mediators in nervous system processes such as synaptic plasticity and axonal growth. Consequently miRs impact important biochemical pathways involved with addiction depression and neuronal repair. A better understanding how opioids affect miRs will expand the knowledge of neuropsychiatric disorders and may lead to the discovery of new potential therapeutic targets to improve pain management in patients following a SCI. Methods: We conducted a cross-sectional secondary analysis of data from a convenience sample of adult participants with and without SCI enrolled in ongoing

clinical trials and an observational study. There were a total of 66 participants with 13 acute SCI (within 3 months of injury) 30 chronic SCI (>3 years post injury) and 23 control participants with no history of SCI were enrolled. Of these participants there were 13 patients taking opioids and 53 patients not taking opioids. Main outcome measures included the examination of serum expression of over 30 miR known to be involved in CNS function. MicroRNA levels were normalized using deep sequencing counts that were quantified from plasma samples. Participants' demographic factors injury characteristics pain severity medication use and health habits were collected via questionnaire. Results: miR-92b-5p and miR-132-3p were found to have differential expression with opioid use. Individuals who use opioids had a decreased expression of miR-92b-5p of  $21.44 \pm 6.41$  ( $p=0.002$ ) and an increase in expression of miR-132-3p of  $26.82 \pm 8.98$  ( $p=0.004$ ). Additionally increase in pain severity was significantly associated with increased expression of miR-92b-5p of  $2.20 \pm 1.08$  ( $p=0.05$ ) and decreased expression of miR-132-3p of  $-3.01 \pm 1.24$  ( $p=0.02$ ). Conclusions: Prior research has examined the role of miR-132 and miR-92b in nervous system processes such as synaptic plasticity axonal growth and cortical development. Target validation of these two miR include proteins which have been known to play important roles in addiction and depression. Further research is needed to confirm and expand on these novel findings regarding miR differential expression. Our findings suggest that patients who use opioids have a differential expression of two miR's which might serve as potential therapeutic targets.

Sunday May 05

## **Effects of a resiliency training program on immediate post program and long term indicators of burnout in psychiatry residents.**

*Angele McGrady PhD; Amy Riese MD; Farzana Qurban Ali; Julie Brennan PhD*

Background: There is increasing concern about the prevalence of burnout in psychiatric physicians during their training years (123). Medical providers struggling with maintaining resiliency in times of stress or experiencing distress make more errors experience low job satisfaction and risk physical and emotional illness. Burnout is characterized by emotional exhaustion depersonalization and low sense of personal accomplishment (4). The ACGME now requires residency programs to offer programs focused on maintaining well-being and reducing stress in their residents (5). Programs of various types directed to reducing the risk of burnout have been evaluated in residents (61). However data on immediate improvements or long term maintenance of changes are sparse. This study tested the effects of a resiliency program on indicators of burnout in psychiatry residents. Methods: The study was IRB approved; residents provided consent. Six-hour sessions were provided in 8 months and emphasized stress management mindfulness and maintaining balance. Worksheets were guides to discussion. One relaxation or mindfulness skill was taught at each session. Practice between sessions was highly recommended but not tracked. Data was collected on burnout perceived stress resiliency mindfulness and quality of life (47-10) Assessments were done in early fall late spring and late spring one and two yrs. post program. Analysis consisted of descriptive statistics and paired t-tests. Significance level was set at  $p < .05$ . Results: The

population consisted of 16 psychiatric residents (11 male 5 female) who completed one year (6 sessions) of programming and were followed for one or two yrs. post program. Baseline (fall) and spring (immediate post program) comparison revealed significant improvements in burnout (23.2 – 20.3;  $p < .0.03$ ) secondary traumatic stress (19.3 – 16.1;  $p < 0.011$ ) and perceived stress (17.8 – 15.3;  $p < 0.048$ ). The second comparison was between immediate post program and one year follow up in 9 residents and showed no significant differences (no relapse). Analysis of baseline and one year follow up ( $n=10$ ) showed significant changes in burnout (23.8 -20.4;  $p < 0.006$ ); perceived stress (19.1-14.7;  $p < 0.003$ ) secondary traumatic stress (19.3-15.5;  $p < 0.006$ ) and mindfulness (3.6 – 4.1;  $p < 0.017$ ). Comparison between immediate post program and two years later ( $n =6$ ) showed significant findings in depersonalization (12.3 – 6.0;  $p < 0.03$ ); compassion satisfaction (37.6 – 42.1;  $p < 0.032$ ) and perceived stress (17.6 – 12.8;  $p < 0.04$ ). Conclusion: The results of this study are promising in that residents benefited from a program designed to build resiliency and decrease the risk of burnout. The long term maintenance and continued improvement in some factors is encouraging and warrants further study. Limitations are the small number of participants in only one residency. We also acknowledge that other factors may have influenced the long term results.

Sunday May 05

## **How to Provide Psychological Support for Psychedelic Treatments: Results from the Psychedelic Practitioner Survey**

*David Bender M.D.; Eric Lenze M.D.; Joshua Siegel M.D. Ph.D.; Sandeep Nayak M.D.*



**Background:** Psychedelics show promise for the treatment of depressive and substance use disorders. One key barrier to implementation is the lack of consensus on standards of care for the provision of psychological support alongside treatment.

**Methods:** We sent an anonymous survey to psychedelic researchers to ascertain their views on psychological support methods. The survey included 30 Likert-scale items free-response items and demographic questions. The survey was distributed via email recruitment to contacts listed on clinicaltrials.gov for clinical trials of psilocybin or LSD personal contacts of authors and snowball sampling. Respondents were required to have overseen at least 2 sessions with classical psychedelics in research settings. Prior to data collection designers coded quantitative responses to represent either an emotive or a neuromodulatory support approach. The emotive approach emphasizes a key role for psychotherapy and creating an emotionally salient environment while a neuromodulatory approach emphasizes a neurobiological conceptualization of drug mechanisms and a support approach akin to psychoactive antidepressants in clinical practice. Summative scores (“E-Scores”) indicating a respondent’s approach preference range from 1.0 (maximally emotive) to -1.0 (maximally neuromodulatory) with 0 indicating no preference. Results: 40 respondents completed the survey. Respondents were from 16 research institutions 11 U.S. states and 4 countries. They oversaw an average of 41 psychedelic sessions with 97.5% working with psilocybin and 10% with LSD. There was notable response variability for many 6-point Likert scale statements (avg. range=4.2 avg. standard deviation=1.2). Results of the E-Score analysis indicated a slight population-

level preference for an emotive over a neuromodulatory approach (average E-Score=0.08 range -0.21-0.41). Individuals who received psychedelic training at the California Institute of Integral Studies or MAPS had a significantly elevated preference for an emotive approach ( $p < 0.05$ ). No significant difference was found between M.D.s and non-M.D.s. Cronbach’s  $\alpha$  was 0.594. Exploratory factor analysis found several latent variables corresponding to discrete qualitative themes (Trust Spirituality and the Psychedelic Experience Subjective Effects as Adverse Effects Creating an Evocative Set & Setting). Free-response items demonstrated that 96% of respondents support therapeutic touch in the form of handholding and 76% of respondents believe individuals with PTSD/trauma require additional psychological support.

**Conclusions:** Among academic psychedelic researchers there is no consensus on many psychological support strategies. A slight preference for an emotive approach to psychological support exists which is higher among individuals who received training at specific institutions. Further discussion and research will be useful to develop more unified standards of care for psychedelic treatments.

Sunday May 05

### **Increasing Awareness and Referrals to Psychosocial Rehabilitation Services with a Focus on Peer Support Services**

*Bhagyashree Patil; Maria Bodic M.D.; Wonyun Lee M.D.*

**Background:** Psychosocial rehabilitation (PSR) is a form of treatment approach within the domain of recovery-oriented care with a holistic perspective of mental health care that incorporates social vocational and

interpersonal dimensions of an individual and communities. PSR model is an evidence-based intervention that has a significant potential to enhance the lives of individuals with mental health disorders and help equip them with the tools skills resources and community support to optimize their level of independent functioning in society. PSR also significantly reduces rates of re-hospitalization and contributes to long-term recovery remission and stability. Methods: We conducted a quality improvement project on approximately total of 70 bed psychiatric inpatient unit in a community mental health hospital to raise awareness of PSR services among staffs and patients and improve the rates of patient referrals to PSR upon discharge. Firstly the project involved implementing targeted educational initiatives for mental health professionals via dedicated didactic series and informational sessions delivered by PSR peers for staff which includes physicians nurses psychologists and social workers. We displayed informational boards introducing PSR services in the inpatient units in order to improve awareness among patients. Lastly we implemented initiatives to enhance collaboration between staff in treatment teams to improve referrals rates. Results: Our initial survey among residents showed that 18 out of 23 residents feel that they did not have enough knowledge to discuss PSR services with their patient and only 2 of these residents have ever discussed PSR services with their patients. Interestingly despite the lack of knowledge 14 out of 20 residents ranked moderate to essential priority to working with peers. Our post-intervention data indicated that 7 out of 10 residents felt moderately to very confident to working with peers. We compared discharges from 1-5/2022 to 1-5/2023. 6.7% (42/627) of patients were referred to peer services in 2022 compared to 7.2% (45/625) patients in

2023. Conclusion: Our findings indicate that trainees have strong interest in providing psychosocial rehabilitation services to patients and relatively inadequate knowledge compared their interest level. This highlights the importance of enhanced training in PSR among mental health providers. With our educational initiatives trainees' confidence level increased to match their interest level. Actual referral rates showed small increase after the QI project.

Sunday May 05

### **Intensive Care Management for High Need Individuals with and without Homelessness after Mental Health Inpatient Hospitalization**

*Jade Setias; Adrienne Ronsani; Xiaoli Fu*

Background: Previous studies have shown a high occurrence of mental health and substance use disorders (SUD) among homeless individuals. Evidence underscores the intricate relationship between homelessness and psychological well-being emphasizing that the absence of secure housing can both trigger and worsen mental illness. (1) The transition period after discharge from a psychiatric hospitalization is a high-risk period where care management can support access to treatment and social services. A randomized controlled trial conducted in Canada showed that stable housing had a longer lasting positive effect on higher need individuals. (2) A study conducted by the Toronto Site Housing First (HF) found that positive outcomes from additional housing support along with ICM services reduced the number of days of an emergency room visit. (3) This study examined whether individuals with serious mental illness and/or SUD comorbidity who were homeless in the past year received

intensive care management services (ICMS) in the month following discharge from inpatient psychiatric hospitalization and identified correlates of receipt of ICMS post discharge by demographic characteristics and history of prior utilization of ICMS. Methods: This retrospective study leveraged Medicaid administrative data for individuals with a psychiatric inpatient discharge in 2022 who met criteria for high need prior to inpatient admission. High need was defined as serious mental illness and/or SUD along with either high utilization of hospital emergency or inpatient services or use of high intensity outpatient services (e.g. Assertive Community Treatment or involuntary outpatient commitment services). Receipt of ICMS post discharge was evaluated for all high needs discharges with a mental health diagnosis and/or SUD. Chi-square tests were used to examine differences between those who received ICMS and those who did not. Results: 10146 discharge episodes were included in the analysis. 3180 (31%) were homeless in the year prior to admission. One month after discharge 19% of all high-needs discharges with homelessness in the past year received ICMS compared to 29% of those without homelessness. Females with homelessness (22%  $p=0.0029$ ) were slightly more likely to receive ICMS than males (18%) following a psychiatric inpatient discharge. The Western region of NYS had the highest rates of ICMS for homeless discharges (33%) and Long Island the lowest (15%  $p<.0001$ ). Conclusions: The relatively low rates of ICMS following psychiatric inpatient discharge among individuals with homelessness indicates an important opportunity to improve outcomes.

Sunday May 05

## **Ketamine prescribing patterns in outpatient community clinics: A survey study**

*Jamarie Geller M.D. M.A.; Andrew Lemmen*

Introduction: Although approved by the FDA in its S-ketamine form for treatment-resistant depression (TRD) ketamine is being advertised and prescribed as a treatment for a variety of off-label uses. There are some practice guidelines based on the available evidence base (1 2) but it is unclear how ketamine is being prescribed and treatment courses are managed by community clinics in the United States. There is a need to better characterize clinical practices and procedures being used by clinics providing ketamine for psychiatric indications across the country. Methods: An online 20 question survey was distributed to ketamine clinics across the country. Information collected included clinic demographics and standard clinical practices including indications for prescriptions routes of administration and typical treatment courses. Results: A total of 126 responses were collected and 119 responses were included in data analysis. Geographically 16.1% of respondents were from the Northeast 22.6% from the Midwest 35.5% from the South and 25.8% from the West. The most commonly prescribed route of administration was intravenous which is reportedly used at 90.8% of clinics followed by sublingual (52.9%) intramuscular (52.1%) intranasal esketamine (32.8%) and intranasal racemic ketamine (21.8%). Average patient volume per clinic was 79.5 unique patients (7480 total collective patients) in a 30 day period. Survey respondents report prescribing ketamine for a wide variety of indications including major depressive disorder (100%) bipolar depression (79.9%) obsessive-compulsive disorder (65.5%) generalized

anxiety disorder (82.4%) and post-traumatic stress disorder (94.1%) among others. Of note 72% of clinics reported prescribing ketamine for treatment-naïve depression and 60% for unspecified depression not meeting full criteria for a major depressive episode. 82% of clinics report prescribing maintenance ketamine treatment. 58% of these report doing so for at least half of their patients. 68% report average maintenance course duration as longer than 6 months and 43% as longer than 12 months. 44% of clinics prescribe ketamine for at-home use (3). Discussion: Given the relative novelty of ketamine treatment for psychiatric indications little is known about the provision of this therapy in the community setting. Our results indicate ketamine is being prescribed much more broadly than for TRD alone using a variety of routes of administration. Additionally most clinics prescribe ketamine beyond the initial indication series often for over a year. These data suggest that ketamine is being used with significant variability in the community pointing to the need for more robust practice guidelines based on available evidence (4).

Sunday May 05

**Mental Health interventions on a group of Trafficked females in Egypt**

*Fatma Ali Mohamed Swilem M.D.*

Abstract Background: The United Nations defines Human Trafficking as “the recruitment transportation transfer harbouring or receipt of people through force fraud or deception with the aim of exploiting them for profit” and says it is practiced everywhere in the world. Studies show that women who have been trafficked for sex have higher levels of fear are more isolated greater trauma and mental health needs than other

victims of crime high rates of physical and sexual violence memory loss sexually transmitted diseases and traumatic brain injuries. The present study attends to explore the mental health profile of a cohort of trafficked women from Egypt. Methods: This study included detailed mental health assessment of 42 trafficked women in and around Cairo in Egypt. Data was collected by social workers. Assessments Diagnosis and interventions were done by the author with the help of two clinical psychologists. Table 1: Types of interventions

Interventions	Number
Trainings (Anger management workshops Self-esteem improvement skills and others)	113
Group Therapy	130
Individual sessions (CBT Talk Therapy Trauma-focused CBT)	188
Therapeutic Trips (meditation and Yoga classes self heal organized trips others)	23
Home visits	40
Medication (Antidepressants Anxiolytics Sleep	

medications and others)

45

#### Individual Psychotherapy

98

Table 2: The percentage of victims who responded positively to different interventions Findings and Conclusion: This snapshot study shows very convincingly that there's a high burden of mental ill health among the trafficked women. Suitable therapeutic interventions may provide effective management and prevention of further deterioration of mental health issues of these vulnerable trafficked women.

Sunday May 05

### Physician moral injury during the COVID-19 pandemic

*Nina Djukic*

Background: Moral injury is defined as lasting distress due to perpetrating failing to prevent or witnessing acts that transgress or deeply violate one's moral or ethical code. Previous research has demonstrated that during the pandemic healthcare workers were at increased risk of moral injury. However few studies have used in-depth interviewing methodologies to assess sources of moral injury in a physician cohort. Objectives: To identify the main sources of moral injury during the pandemic in a physician cohort. Methods: Participants were 13 physicians who reported caring for COVID patients at a major metropolitan university hospital system during the COVID-19 pandemic (March 2020-present). Physicians were asked about experiences of moral injury and how their social identities affected their experience of caring for COVID-19 patients

during interviews. Rapid thematic qualitative analysis was used to evaluate interview data. Demographics work characteristics and moral injury exposures and symptoms were also collected via questionnaire. Results: Five main sources of moral injury were identified by study staff in interview analysis including: 1) Witnessing inequality 2) Self-identification with marginalized patients 3) Insufficient resources 4) Restricting patient autonomy and 5) Balancing patient care duties and self-care/home responsibilities. Conclusions: Identification of moral injury themes and how these themes intersect with self-reported social identities can assist with greater targeted individual and systemic support of physicians.

Sunday May 05

### Prediction of Readmission in a Brief Psychiatry Unit at El Bierzo Hospital

*Maria Estrella García Llamas; Elena Martin Gil; Ruth Landera; Jose Maria Pelayo-Teran; Flora Vega-Fernandez*

Background: Readmission rates range from 10% in the first month to 80% over a seven-year period following discharge. Risk factors of readmission include a history of psychiatric hospitalization illness severity substance use lower patient functioning at discharge and insufficient outpatient care. Identifying predictive factors for readmission and providing support to individuals with these conditions is crucial for a preventive approach. Methods: We conducted an analytical observational longitudinal study analyzing sociodemographic and clinical data from a cohort of patients admitted to the brief psychiatry hospitalization unit at El Bierzo Hospital from January 1 2019 to December 31 2022. Univariate analyses and Cox survival analysis were performed to predict



readmission by time. Results: A total of 1322 admissions were observed. 772 (58.3%) experienced at least one relapse over the four years. The relapse rate at one year was 32% and at 30 days was 10.2%. The median time to a new relapse was 1210 days. The study period was divided into pre-pandemic (2019) pandemic (2020-2021) and post-pandemic (2022). A significantly higher one-year relapse probability was observed during the pandemic period (37.8% vs. 28.9% and 25.1% in pre-pandemic and post-pandemic periods  $\chi^2=19.84$   $p<0.001$ ). Diagnoses were grouped into psychotic bipolar depressive personality disorders and others. Using the Long-Rank statistic median relapse time was shorter in personality disorders (860.32; CI=694.52-660.31 days) compared to other diagnoses ( $\chi^2=17.56$   $p=0.002$ ). A Cox prediction model stepwise backward - Wald ( $\chi^2=114951$ ;  $p<0001$ ) showed that younger age (HR=0986;  $p<0001$ ) previous admissions (HR=2083;  $p<0001$ ) smoking (HR=1210;  $p=0039$ ) and admissions in 2019 (HR=1339;  $p=0008$ ) were associated with a higher risk of relapse in a shorter time. Conclusions: During the pandemic period relapses were notably higher in the first year post-admission. Main diagnoses associated to rehospitalization were psychosis and personality disorder in young people. A challenge for mental health services should focus in the care of these severe mental disorders to maintain outpatient services and reduce admissions. Differences in periods may be influenced by a different follow-up time. The main limitation was data acquisition bias with data available for this study representing 91% of the total.

Sunday May 05

**Receiving Intensive Community Mental Health Recovery (ICMHR) services was**

**associated with improvement in psychiatric symptoms among veterans**

*Alex Duman PhD; Suja Rajan; Michelle Winkler*

Given the higher mental illness burden among veterans Veterans Health Administration (VHA) provides high-quality mental healthcare via numerous evidence-based services. The Intensive Community Mental Health Recovery (ICMHR) program offers such services to veterans with mental illness and serious functional disability (e.g. those with psychoses or bipolar disorders) through the intensive provision of care management and recovery-oriented services in the community. This study is the first to evaluate associations between receiving all program components of the ICMHR services and changes in psychiatric symptoms among veterans over time at a national level. We used modified 19-item Brief Psychiatric Rating Scale (BPRS) assessments captured by clinicians at the time of ICMHR program enrollment and at 6 and/or 12 month follow-up. Veterans who enrolled in ICMHR during fiscal years 2019-2021 and had assessments at enrollment and at least one follow-up were included (N= 2417). Multivariable random effects panel data linear regressions were used to examine changes in modified BPRS scores over time. A similar panel data logistic regression assessed the likelihood of veterans achieving a  $\geq 20\%$  reduction in their modified BPRS scores at follow-up periods relative to baseline. Changes in the five clinically relevant BPRS domains were also examined with panel data linear regressions. We found a statistically significant drop in modified BPRS scores at the 6 month (Adjusted average change [AAC]: -1.6; 95% CI: -2.2 to -1.0) and 12 month (AAC: -2.4; 95% CI: -3.0 to -1.7) follow-up periods relative to baseline scores measured at enrollment.

Twenty-five percent of veterans and 30% of veterans had a  $\geq 20\%$  reduction in modified BPRS scores during the 6- and 12-month follow-up as compared with the baseline respectively and the relative decline over time was statistically significant ( $p = 20\%$  reduction in their score at follow-up). ICMHR services were associated with improvement in psychiatric symptom domains of Affect Activation and Negative and Positive Symptoms. There was no effect on psychiatric symptoms representing Resistance. Results suggest ICMHR services are potentially effective in improving veterans' psychiatric symptoms as measured by modified BPRS scores thereby upholding VHA's directive to help veterans with mental illness and functional disability. Of the BPRS domains Affect had the largest change over time and suggests veterans who received ICMHR services had the greatest improvement in their anxiety guilt depression and somatic concern. Conversely on average the Resistance domain had no change and suggests the ICMHR program may benefit from additional interventions to address symptoms of hostility uncooperativeness and suspiciousness among veterans. All findings and conclusions are those of the authors and not the U.S. Department of Veterans Affairs.

Sunday May 05

### **Screening Minds: Balancing Prevention and Privacy**

*Alexandra Belzie M.D.; Alissa Belzie; Daniel Ehlke*

Background: The distress from mental health crises among college students highlights the utility of early risk identification intervention and the provision of preventive resources for mental health care at the undergraduate level. This study sought to assess the

suitability of implementing a mandatory mental health screening as a pre-matriculation requirement for undergraduates. Methods: A cross-sectional web-based survey was conducted to gauge mental health beliefs perceived risks of mental illness and attitudes toward mandatory mental health screening among U.S. college students. The survey comprised of forty-three questions with both quantitative and qualitative components was anonymously completed by current undergraduate students. Data collection occurred via Google Forms administered through email between April 2023 and October 2023. Results: A 100% completion rate was achieved from the 57 participants who responded to the survey aged 20.9 years on average and 68.4% of whom were female. Fifty-one percent of college student responders are open to completing a mental health assessment as a pre-matriculation requirement. Regarding preferences for mental health providers 49% favored choosing professionals from either the university or their own healthcare provider while 42% preferred their personal healthcare provider. The majority (67%) preferred in-person assessments. Approximately 67% of students indicated they would be willing to seek professional help if suggested by screening results. Concerning support structures 63% believed that the school health centers should directly connect students with providers while 32% preferred having a list of providers for independent contact. Further exploring mental health preferences 66.7% of students believe they could have benefited from a pre-college session with a mental health care provider. Meanwhile 38.6% express interest in seeking mental health assistance but are not currently doing so. Among those who felt the need for professional support during the

school year 43.9% sought support 10.5% attempted but failed and 26.3% did not seek support. Recognizing the potential positive impact of an early assessment 66% of participants express this sentiment. However 57% of participants expressing reluctance fear the potential misuse of their private information. Of participants 86% acknowledged the existence of a mental health stigma. Conclusion: The study suggests that implementing a pre-matriculation mental health assessment could be a valuable intervention. Such an assessment may assist students in navigating the critical transition period potentially improving academic outcomes and addressing mental health challenges early in their college journey.

Sunday May 05

### **Successful Reintegration into the Community among Patients Discharged from a New York State Psychiatric Hospital**

*John Crane M.D.; Omar Alzein M.D.; Laurence Dopkin M.D.; Caitlin Stork M.D.*

APAF Helping Hands Grant (ID# 21023)

**INTRODUCTION:** Patients admitted to state psychiatric hospitals have severe mental illnesses and have failed multiple medication trials. Upon discharge barriers to community reintegration include lack of resources interpersonal difficulties and substance misuse. The first month after discharge is one of the most challenging periods for patients reintegrating into the community. We defined successful reintegration as (1) retention in outpatient psychiatric care and (2) maintaining stable housing one month after discharge from a state psychiatric hospital.

**METHODS:** We performed a retrospective chart review of patients discharged from Manhattan Psychiatric Center (MPC) a state

psychiatric hospital in New York. Inclusion criteria were patients' first admission for inpatient psychiatric services (i.e. dropped subsequent readmissions) length of stay <365 days discharged in 2018 received outpatient psychiatric services at MPC's clinic. We defined stable housing as remaining in the same housing after discharge or moving on purpose (e.g. from transitional housing to permanent housing). One-month follow-up outcomes were analyzed using descriptive statistics and logistic regression models. **RESULTS:** Of the 103 patients the median age was 40 (interquartile range [IQR] (33-49) 82% were male 51% were Black 29% were Hispanic/Latinx 67% had at least a high school degree education 68% were homeless at admission 92% were diagnosed with Schizophrenia or another psychotic disorder 64% were admitted from another inpatient hospital 95% had a previous inpatient psychiatric hospitalization. On discharge the median length of stay was 107 days (IQR 79-177) 62% were housed at MPC's Transitional Living Residence (TLR) 55% were on 2 or more antipsychotics 83% were on a long-acting injectable antipsychotic 68% were on an oral antipsychotic (of these 74% were on Clozapine) 61% were on a mood stabilizer. Within 1 month of discharge 3 patients fell out of outpatient care and 24 patients had unstable housing; and therefore were dropped from the one-month analysis. One month after discharge 81% were still in outpatient psychiatric care (N=100) and 85% maintained stable housing (N=79). Patients living at TLR were 3 times more likely to stay in outpatient care ( $p<0.041$ ). Patients diagnosed with Schizophrenia or another psychotic disorder were 5 times more likely to stay in outpatient care ( $p<0.032$ ). There were no significant predictors for maintaining stable housing. **DISCUSSION:** In our study most patients stayed in outpatient mental health

care and remained in stable housing one month after discharge from a New York State psychiatric hospital. Important predictors for patients to stay in outpatient mental health care were being discharged to TLR and being diagnosed with Schizophrenia or another psychotic disorder. Further studies should explore these outcomes with patients diagnosed with other psychiatric disorders.

Sunday May 05

**The ANKK1 rs1800497 T allele in interaction with 5-HTR1B rs13212041 T/T genotype as a predictor of developmental psychopathy in maltreated children**

*Silvia Pellegrini; Sara Palumbo; Pietro Muratori; Kent Kiehl; Pietro Pietrini*

**Background.** The assessment of psychopathy has proven useful to identify subjects with particularly severe and persistent behavioral problems who exhibit a deviant lifestyle characterized by irresponsible behavior and tendency to ignore and violate social conventions and norms as well as interpersonal/affective deficits including inability to establish strong emotional bonds with others and feeling empathy guilt or remorse. A growing body of evidence suggests that the affective deficits typically found in psychopathy are already present during childhood as Callous-Unemotional (CU) traits which are indicated both in the DSM-5 and in the ICD-11 as specifiers for the diagnosis of Conduct Disorder with Limited Prosocial Emotions. CU traits distinguish children with severe and persistent disruptive behaviors some of whom are at risk of developing psychopathy as adults. The persistence of affective deficits from childhood to adulthood has been suggested to be largely due to genetics. **Methods.** To search for early predictors of psychopathy we

investigated the 5-HTR1B- rs13212041 variant – whose TT genotype was previously shown by us to be associated with psychopathy in a group of inmates exposed to paternal maltreatment during childhood – in addition to six dopaminergic variants (ANKK1-rs1800497 COMT-rs4680 DRD4-exonIII VNTR and rs1800955 TH-rs6356 SLC6A3-40bp VNTR). We studied these variants in interaction with each other and with childhood maltreatment in 985 male incarcerated adults and 120 male youths with Disruptive Behavior Disorder (DBD). Psychopathic traits were assessed by the Psychopathy Checklist-Revised (PCL-R) in adults and by the Antisocial Process Screening Device (APSD) in youths. In 247 incarcerated adults the Measure of Parental Style questionnaire was used to measure the perceived behavior of parents during the first 16 years of life while DBD youths were screened by the Maltreatment Index. **Results.** Linear regression analysis showed that the ANKK1-rs1800497 T allele increased the correlation between paternal maltreatment and high psychopathy scores in adults and predicted higher CU scores in DBD youths exposed to active maltreatment. Moreover the ANKK1-rs1800497 T allele synergistically interacted with the 5-HTR1B-rs13212041 TT genotype further increasing both associations and making CU scores exceeding the clinical cut-off of the APSD-CU subscale. **Conclusions.** The interaction between ANKK1-rs1800497 T allele and 5-HTR1B-rs13212041 TT genotype appear to make children more vulnerable to maltreatment thus increasing their risk of developing CU traits in childhood and psychopathy as adults. This genetic profile might allow the identification of children with CU traits at higher risk for developing psychopathy if maltreated. Our findings highlight the need of tailored therapeutic

strategies to improve the rate of success in treating CU traits in an attempt to prevent adult psychopathy.

Sunday May 05

### **THE USE OF CLOZAPINE IN RESOURCE POOR SETTING: A STUDY BASED ON CLOZARIL PATIENTS MONITORING SYSTEM (CPMS)**

*Raza Rahman M.B.B.S FCPS (Psych) DCPS-HPE MHPE*

**Introduction** Although Clozapine is recommended drug for treatment resistant schizophrenia but evidence show that it is underutilized. Although population of schizophrenics in developing countries is quite high but there is little systematic information available about the use of Clozapine in these countries. This study was designed to assess the pattern of clozapine use its side effects & average maintenance dose in Pakistan a developing country.

**Methodology** The medical record of psychotic patients who are currently on the data base of Novartis Pakistan (Clozapine Monitoring system) was retrieved and analyzed on SPSS 17. The data of generic Clozaril was not included in this study as it is not available due to lack of proper monitoring.

**Results:** The record of 1256 patients belonging to the different parts of Pakistan was analyzed. More than two-third of the sample (70%) consists of male. The average maintenance dose of Clozaril came out to be 230mg. The two-third of the patients were taking treatment for more than 2 years. It is also noted that only a quarter of the psychiatrists in Pakistan are prescribing clozaril.

**Discussion:** The inadequate use of Clozapine in developing countries may be due to inadequate psychiatric facilities cost of treatment and monitoring misperceptions

about the effects of drug and local beliefs about giving blood for tests. Like other developing countries the mean dose of Clozaril is significantly low that may be due to the different pharmacodynamics or pharmacokinetic factors. The knowledge of proper drug dosage in the form of fewer side effects and reduction in cost of drug is important particularly for developing Asian countries like Pakistan It is alarming that less than one fourth psychiatrists were involved in prescribing Clozaril that may be due to lack of knowledge about this drug and lack of pharmaceutical industry interest in promotion of this drug to make it available in rural areas. **Key Words:** Prescribing pattern Low dose clozaril Pakistan

Sunday May 05

### **Poster Session 8**

Sunday May 05

### **A Pre-pandemic to Post-pandemic Comparison of Psychiatric Metrics at Zucker Hillside Hospital (ZHH)**

*Brenda Neuman; Ema Saito*

**Background:** The COVID-19 pandemic affected mental health significantly. This study aims to compare certain metrics of the inpatient population at a free-standing psychiatric hospital in New York suburb before and after the COVID-19 pandemic.

**Methods:** Data for 2018 to 2022 was collected from the quality department and legal liaison. The metrics were average length of stay (LOS) restraint index seclusion index total constant observation (CO) hours percent of admissions with medication over objection (MOO) hearings percent of admissions with state transfer hearings



percent of admissions with state hospitalization applications and percent of admissions with assisted outpatient treatment (AOT) applications. Results: There was an upward trend in average LOS and restraint index from 2018 to 2022 with 15.9 days in 2018 16.9 days in 2019 17.7 days in 2020 17.6 days in 2021 19.0 days in 2022 for average LOS and 0.081 in 2018 0.104 in 2019 0.17 in 2020 0.21 in 2021 0.19 in 2022 for restraint index. There was no trend in the seclusion index in 2018 2019 2020 2021 and 2022 (0.104 0.07 0.12 0.09 and 0.10 respectively). The total CO hours increased in 2018 2019 2020 2021 and 2022 (110908 114688 125884 166944 and 174292 respectively). From 2020 to 2022 there was an upward trend in the percentage of MOO hearings percentage of patients with state transfer hearings and percentage of state hospital applicants with 0.96% in 2020 3.62% in 2021 3.20% in 2022 for percentage of MOO hearings 0.86% in 2020 1.90% in 2021 2.0% in 2022 for percentage of patients with state transfer hearings and 2.44% in 2020 2.46% in 2021 and 2.95% in 2022 for percentage of state hospital applicants. There was an upward trend in the percentage of AOT applicants with 0.97% in 2019 0.84% in 2020 1.60% in 2021 and 1.97% in 2022. Conclusion: The metrics involving psychiatric inpatients such as average LOS restraint index percentage of MOO hearings percentage of state transfer hearings percentage of state hospital applications and percentage of AOT applications had an overall upward trend from 2018 to 2022. This may signify an increased morbidity in hospitalized psychiatric patients; however it can also be due to a change in the characteristics of the healthcare staff and their response to the psychiatric patients. This may also indicate a change in the quantity and quality of outpatient mental health resources. However

data for metrics of staff and outpatient resources were not available in this study and therefore this confounder was not accounted for.

Sunday May 05

### **Augmenting Psychopharmacology Education in Psychiatry Residency through Visual Mnemonics: a Proof of Concept**

*Diana Li; Zachary Goodman M.D.; Patrick Ho M.D.*

Psychiatry residents face the daunting task of both learning psychopharmacology through formal didactics and informal studying and subsequently implementing and refining this knowledge through patient encounters. This poster presentation aims to present a case for augmenting psychiatry residents' psychopharmacology training with visual mnemonics popularized by medical education companies such as Sketchy Medical "Picmonic" and "Pixorize." Visual mnemonics are effective and widely used among medical school students and residents. While the products of these companies often focus on "high yield" topics for medical school exams we wanted to envision what useful visual mnemonics for psychiatry residents might look like. To this end we surveyed a small sample (n=17) of current psychiatry residents on what information they would prefer a visual mnemonic system for individual psychiatric medication to encompass. Most residents agreed that they would want a visual mnemonic to include information about mechanism of action (94.1%) effects on receptors (88.2%) and neurotransmitters (94.2%) normal blood level ranges (82.4%) pharmacodynamics (82.4%) enzyme interactions (88.3%) side effects (100%) and their relative severity (79.3%). Some wanted

information about dosing (47.0%) FDA approved (64.7%) and off label indications (64.7%) as well as the generic name of drugs (47%). Fewer were interested in inclusion of brand names (23.6%) or pricing (11.8%). Overall 94.1% of surveyed psychiatry residents agreed or strongly agreed that such a mnemonic system would be useful to supplement their education 82.3% agree that it would help them on training exams and 88.3% feel it would help with their clinical decision making. With 88.2% of surveyed residents citing second generation antipsychotics as a category of particular interest for this project we set out to make multiple proof of concept visual mnemonics. These mnemonics employ the preferences described by current psychiatry residents easily understood symbols that are consistent across visual mnemonics but integrated into the theme of the drug to facilitate memorization. In the future we would like to complete the series of visual mnemonics within this category and expand to others (e.g. modern antidepressants mood stabilizers first generation antipsychotics). 64.7% of surveyed residents expressed that lab monitoring of psychiatric medications (e.g. lithium clozapine) would be especially beneficial to remember through visual mnemonics. Given that 64.7% of residents felt it would be worthwhile to integrate visual mnemonics into a formal didactic curriculum this implementation would also be worth exploring."

Sunday May 05

**Bullous Pemphigoid in a patient with bipolar disorder and a newly identified psychotropic drug trigger: A case report and review of the literature**

*Arianne Foster MD; Kayla Morel MD; Breanne Mordorski; Candace Hatten-Powell*

Background: Bullous pemphigoid (BP) is acutaneous autoimmune disease characterized by widespread tense fluid-filled bullae. The occurrence or exacerbation of the disease is multifactorial and in some cases may involve a triggering event such as drugs infections or cutaneous trauma. Interestingly neuropsychiatric disorders have been associated with BP and there is growing evidence suggesting that triggers may also include antipsychotic drugs. However data remains limited. We aim to contribute to the scientific literature by reviewing current research associating BP with antipsychotics. Additionally we provide a case of suspected drug-induced BP in a 50-year-old patient with an antipsychotic not previously reported. Methods: Pubmed was used to search for studies that explored the association between BP and antipsychotics. Keywords included "Bullous Pemphigoid" "Antipsychotic" and "Cariprazine." Results: There are few studies supporting the association between antipsychotics and elevated BP risk as well as minimal specificity regarding which antipsychotics may be associated. Furthermore the mechanism by which neuropsychiatric disorders and BP are related is poorly understood. This association complicates the relationship between antipsychotics and drug-induced BP. We report for the first time a patient with bipolar disorder presenting with BP confirmed by tissue histology direct immunofluorescence and serum auto-antibodies following 2.5-year therapy with cariprazine. Conclusion: There is research suggesting that antipsychotics may trigger drug-induced BP though data is limited and further investigation is necessary. This case would be the first known report demonstrating an association between cariprazine and bullous pemphigoid.

Sunday May 05

### **Comparative efficacy and tolerability of ketamine and its enantiomers**

*Shawn Hingorani MS4; Abdul Rahim Khan; Darakhshan Adam M.D.; Faisal Suba M.D.*

Ketamine is the first novel antidepressant after seven decades of developing monoaminergic antidepressants. Although only the intranasal formulation of the S-enantiomer of ketamine is FDA-approved to manage treatment-resistant depression there is evidence that the R-enantiomer is also biologically effective. However there is little clinical evidence to support R-enantiomer's antidepressant efficacy. In addition the intravenous infusion of ketamine appears more effective than the intranasal S-enantiomer. We believe that a better understanding of the mechanisms underlying differences between different ketamine enantiomers and formulations will help enhance the clinical utility of ketamine. We wanted to review the current literature comparing the biological mechanisms explaining differences in antidepressant efficacy and tolerability of racemic ketamine and its two enantiomers. A literature review was conducted using the search string "arketamine" OR "R-ketamine" OR "esketamine" OR "ketamine" AND "Treatment-Resistant Depression" OR "Major Depressive Disorder" on PubMed. Search criteria included human trials randomized controlled trials and trials in English over the past five years. Although this search criterion excluded the three small trials with arketamine we discussed the findings from these studies to compare with the ketamine and esketamine studies. Initially we found 80 studies; however after removing duplicate data open-label studies and trials where

either placebo or treatment group had  $n < 30$  were excluded 12 studies remained. All reviewed studies employed MADRS scores to assess antidepressant response. Five of the 12 studies reported significant responses with esketamine than placebo while two studies were negative (12). Two studies reported ketamine and esketamine as equally effective and three studies reported ketamine to be more effective than midazolam. Two of the three arketamine studies were superior to placebo and one was negative. Although the antidepressant effect of arketamine and esketamine are thought to be mediated via NMDAR antagonism arketamine has less potent effects in blocking NMDAR than esketamine. In addition esketamine is linked with more significant psychosis than ketamine perhaps due to a more robust antagonism of the NMDARs. Similarly this may be why esketamine has more significant effects on hyperlocomotion deficits in prepulse inhibition and rewarding effects than arketamine. Although the three arketamine studies were open-label and conducted in small samples arketamine appeared equally effective to IV ketamine and esketamine regarding antidepressant effects but with a better adverse effect profile (3). However these preliminary findings warrant confirmation in large-sampled head-to-head comparisons between ketamine and the two enantiomers."

Sunday May 05

### **Effect of 4 weeks of physical exercise on emotion regulation in adult with borderline personality disorder: A series of mixed method N-of-1 studies**

*Lionel Cailhol M.D.;Ph.D.; Paquito Bernard*

Physical exercise (PE) is a well-documented treatment for individuals with severe mental

disorder such as schizophrenia and mood disorders. It helps improve clinical symptoms functioning and quality of life of these individuals<sup>1</sup>. Moreover recent studies indicated that PE improved emotion regulation in adults with and without severe mental illness<sup>2</sup>. Emotional dysregulation characterized by highly variable and unstable emotions and a high inertia of negative emotions is a core component of borderline personality disorder (BPD)<sup>3</sup>. Therefore PE might have important benefits in this population. However no previous study examined the effects of regular PE on emotion regulation in individual with BPD. A series of seven 8-week N-of-1 studies was led to analyze this effect and assess acceptability of a 4-week PE intervention in this population. Our participants' emotions were assessed three times daily for the 8 weeks of the study with the PANAS-10 items delivered on their smartphone for ecological momentary assessment. This study followed and A-B-A design. The study was separated in three different phases. Each A phase (at the beginning and the end of the study) was observational and lasted 2 weeks. In these phases participants only had to fill out the 3 daily emotion survey on their phone. The B phase (in the middle) was interventional and lasted 4 weeks. During this phase each participant was matched with a kinesiotherapist to complete 3 weekly 1-hour supervised PE session. Every PE session followed a plan to ensure similar intensity and PE volume throughout participants. At the end of the B phase participants were suggested to complete a semi-structured interview about their experience during the PE intervention. The thematic analysis was used to analyse interviews content. Emotion dysregulation was computed using emotion's week standard deviation for variability mean square difference of subsequent emotions for

instability and autocorrelation for inertia. Piecewise linear regressions were carried out for each participant and multilevel piecewise linear regression were carried out with participants pooled together. Four main themes were found following the thematic analysis: 1) accessibility of PE (facilitators and barriers both internal and external); 2) characteristics of the trainer (qualities guidance and relationship); 3) changes attributed to PE (physical psychological and general); 4) model of PE (ideal setup to practice PE). Moreover quantitative analyses showed an increase of positive emotions in 3 participants a decrease of negative emotions in 4 participants and a decrease in negative emotions variability in 2 participants during the intervention. Multilevel piecewise regressions indicate a general increase of positive emotions and decrease in negative emotions throughout our participants. This first ever study analysing the effect of a 4-week intervention of PE in adults with BPD suggests a positive impacts on their daily emotions.

Sunday May 05

### **Examining the Dark Tetrad: Analyzing Profiles and Their Connection to the Big Five Personality Traits**

*Raquel Gómez-Leal; Pablo Fernandez-Berrocal; María José Gutiérrez Cobo; Rosario Cabello; Alberto Megías-Robles*

Background: The Dark Tetrad (DT) comprises the traits of Narcissism Machiavellianism Psychopathy and Sadism. Previous research on the DT has typically examined these traits individually using a variable-centered approach. In this study we take a different approach by treating the DT as a unified construct and adopting a person-centered approach. Our objective is to analyze various

homogeneous subgroups of individuals characterized by specific DT profiles and explore how these profiles relate to the Big Five personality factors. **Methods:** To achieve this we collected data from 1154 participants including both men and women aged 18 to 79 years. We utilized The Short Dark Triad and the Assessment of Sadistic Personality instrument to assess DT traits and the Mini-IPIP to evaluate the Big Five personality factors. Through cluster analysis we identified five distinct groups: Narcissism Machiavellianism Mean DT Low DT and High DT. **Results:** Our primary findings revealed that the High DT group exhibited higher levels of extraversion and lower levels of agreeableness and conscientiousness when compared to the Low DT group. Additionally the Narcissism group displayed higher scores in emotional stability and openness to experience. Notably the distribution of gender varied across the DT groups with more men than women in the High DT group and the opposite pattern observed in the Low DT group. **Conclusion:** A proper understanding of personality traits is crucial for improving the evaluation and diagnostic procedures in mental health. This understanding should be based on empirical research that not only identifies these traits but also examines their interrelationships and how they interact with other variables.

Sunday May 05

### **How Psychedelics Effect Individuals with Personality Disorders: A Prospective Cohort Analysis**

*Alexandra Gordon M.D.;M.S.; Richard Zeifman PhD; Brennan Carrithers MD MS*

Introduction: Personality disorders (PDs) are characterized by impairment in psychological functioning. Treatment options for PDs are

limited and there is poor evidence for the efficacy of pharmacological treatment<sup>12</sup>. Research suggests that psychedelics have enduring positive effects on psychological functioning and personality offering a unique opportunity for potential PD treatment<sup>34</sup>. However studies are lacking that examine the effects of psychedelics on individuals with PDs. Also individuals with PDs are frequently excluded from psychedelic research in part due to safety concerns specific to this population. This study examined the effects of psychedelic use on mental health outcomes among individuals with PDs. **Methods:** Data were used from three prospective observational studies. Twenty-four individuals with a self-reported PD diagnosis completed mental health measures of trait anxiety suicidal ideation (SI) depression symptoms and well-being at the following time points: before (baseline) 2 weeks after (except for SI) and 4 weeks after psychedelic use. Participants completed a measure of emotional breakthrough the day after their psychedelic experience. Changes in mental health were evaluated via repeated-measures ANOVAs and paired t-tests. Correlation analyses examined the relationship of emotional breakthrough with changes in mental health outcomes post-psychedelic use. **Results:** Following psychedelic use trait anxiety and depression symptoms significantly reduced ( $F[230]=12.47$   $p<0.001$ ;  $F[230]=12.47$   $p=0.003$  respectively). Trait anxiety decreased from baseline to 2 weeks ( $t[22]=4.11$   $p<0.001$  Hedges  $g=0.63$ ) and 4 weeks ( $t[16]=3.07$   $p=0.007$   $g=0.45$ ). Depression symptoms decreased from baseline to 2 weeks ( $t[21]=3.28$   $p=0.004$   $g=0.67$ ) and 4 weeks ( $t[15]=2.46$   $p=0.027$   $g=0.53$ ). SI reduced significantly between baseline and 4 weeks ( $t[16]=2.38$   $p<0.001$   $g=0.52$ ). Several individuals showed elevations in SI (5.88%)



with no elevations to high risk of suicidal behavior post-psychedelic use. All participants with high risk of suicidal behavior at baseline (11.7%) were at low-risk post-psychedelic use. Well-being increased significantly ( $F[2,30]=4.09$   $p=0.027$ ) between baseline to 2 weeks ( $t[22]=2.60$   $p=0.016$   $g=0.38$ ) but not 4 weeks ( $t[16]=1.65$   $p=0.118$   $g=0.30$ ). Associations between emotional breakthrough and post-psychedelic changes in mental health were not statistically significant. Conclusion: For individuals with PDs psychedelic use was associated with improvements in psychological functioning (i.e. depression anxiety SI and well-being). Elevations in SI were rare and not clinically significant. Emotional breakthrough was not shown to significantly impact improvements in mental health. Limitations include self-reported data small sample size uncontrolled study and lack of differentiation between PDs. Further research is warranted to explore the effects and therapeutic potential of psychedelics in individuals with PDs.

Sunday May 05

### **Increased risk of injury and adult attention deficit hyperactivity disorder and effects of pharmacotherapy: a nationwide longitudinal cohort study**

*Jaeun Ahn*

Background: The heightened risk of accidents and injuries among children and adolescents with attention-deficit/hyperactivity disorder (ADHD) is well-established. Additionally there is increasing evidence of an ameliorating effect of ADHD medication on injury risk. However a dearth of knowledge remains regarding injury risk and the influence of ADHD medication in adult ADHD. This study aims to investigate the risk of injury in adult

ADHD and assess the impact of ADHD medication on this risk. Method: : From a nationwide health claims database we identified adult ADHD who were diagnosed at age 19-44 ( $n=9417$ ) between 2017 and 2018. We evaluated the association between adult ADHD and the risk of injury across various categories and the effect of two commonly prescribed ADHD medications methylphenidate and atomoxetine on injury risk. Cause-specific COX models were used for data analysis. Additionally a Cox regression model was applied to assess the influence of ADHD medication prescription on injury risk after adjusting for key variables including sex age level of urbanization and comorbid psychiatric disorders. Results: Adults with ADHD demonstrated an elevated risk of sustaining various types of injuries encompassing fractures dislocations sprains and strains intracranial/internal injuries open wounds injury to blood vessels superficial injuries contusions crushing injuries foreign body ingress through an orifice burns nerve and spinal cord injuries poisoning and other specified and unspecified injuries. Notably methylphenidate prescription exhibited a protective effect against injury which persisted even after controlling for potential confounding factors [hazard ratio (HR) = 0.47; 95% confidence interval (CI): 0.43–0.52]. Furthermore atomoxetine prescription displayed a statistically significant effect in reducing injury risk [hazard ratio (HR) = 0.74; 95% confidence interval (CI): 0.67–0.82]. Conclusions: Our findings underscore the heightened risk of injury across various categories in adult ADHD. Importantly ADHD medication whether methylphenidate or atomoxetine appears to yield similar effectiveness in reducing this risk among adult ADHD. These results emphasize the significance of injury prevention in the context of adult ADHD and highlight the

potential for ADHD medication to confer substantial health benefits in this population.

Sunday May 05

### **Individual Placement and Support for persons with mental disorders and disability pension: Randomized controlled trial and follow up**

*Wolfram Kawohl M.D.*

**Introduction** Individual Placement and Support (IPS) is a supported employment method used for the vocational inclusion of individuals with mental disorders. There is vast evidence that IPS is effective for finding jobs. However evidence concerning the applicability of IPS for persons with mental disorders receiving a disability pension and concerning the sustainability of IPS is scarce.

**Objectives** The aim of the studies included in this report was to a) control for the applicability of IPS for persons receiving a disability pension and b) to gain insight in the sustainability of IPS in this context.

**Methods** A randomized controlled trial with 250 participants was conducted. The participants in the intervention group received job coaching according to the IPS standard. Members of the control group received no organized support but were allowed to seek assistance on their own. The initial phase of the study lasted 24 month. Job coaching was delivered only in the first phase of the study and discontinued after 24 month. A follow up was performed six years after the start of the study to clarify the further course (number of employment relationships degree of employment duration of employment salary). **Results** In the first phase of the study the overall dropout rate was 32% (79 participants) with the dropout rates in both groups being similar. In the intervention group 40 new jobs were obtained (control group:

14). The highest employment rate during the course of the first phase of the study was 44% in the intervention group and 28% in the control group. 114 participants (46% of the original number of participants) took part in the follow-up survey. 36% of the members of the intervention group obtained a job vs. 33% in the control group. 36 There were no significant differences between the groups in terms of number of employment relationships degree of employment length of employment and salary in the follow up. **Conclusions** The effect of a clear superiority of the IPS intervention with regard to the number of employment relationships which was measured during the first phase of the study was only slightly detectable six years after the start of the study and up to four years after the end of the intervention and was no longer statistically significant. This result underlines the importance of continuing job coaching for an unlimited period of time as called for in the IPS concept in order to perpetuate the positive effects such as finding and maintaining a job in the primary labour market. IPS is effective for the vocational inclusion of individuals with mental disorders even if those persons receive a disability pension. It has effects also on psychopathology and quality of life. The placement-effect vanishes over the years when no further support is delivered. Thus IPS should be continued without temporal limits.

Sunday May 05

### **Investigating internalized mental health stigma among psychiatrists - are we our own worst enemy?**

*Areeb Usmani MD; Cailin Weber; Oluwatoyosi Ogunlana; Mikelle Mikesell*

The purpose of this study was to better understand the prevalence of internalized

mental health stigma within the mental healthcare community. Through understanding these stigmata the study aimed to identify barriers that may deter mental healthcare providers from personally seeking out and utilizing mental health resources. Additionally the objective was to discover how a personal history of mental illness and/or substance abuse among healthcare providers affected their ability to provide care in their given capacity.

**METHODS:** This cross-sectional study collected data from mental healthcare providers using a self-assessment model with data collection from surveys. The survey included questions addressing mental health perceptions perceived stigma related to seeking mental health care and factors influencing their decision to access care. Additionally open-ended questions were included to allow respondents to provide qualitative insights into their experiences. The survey was distributed to Psychiatric residents and attendings throughout the U.S with an emphasis on distribution in the Midwest. 300+ surveys were distributed with the results of this study extrapolated from 31 completed surveys (the population included 13 resident physicians and 18 attendings).

**RESULTS:** The results of this study included findings that helped to identify the stigma surrounding personally receiving a diagnosis and treatment as well as the possible requirement of disclosure of their mental illness. Of note over 1 out of 4 stated that they were required to report a history of mental health illness for employment purposes and 28% of the total population felt pressure to not disclose a history of mental illness and/or substance abuse when applying for a residency/employment in the medical field. Additionally results included information regarding the perceptions of how having a personal history of mental illness can

become either a detriment or benefit in providing mental health care to patients as a provider. 25% of respondents felt that having a personal history of mental illness was helpful and positively impacted their ability to provide mental health care to patients. The previous finding was in stark contrast to 29% of participants who reported said that they felt they likely met diagnostic criteria for a mental health disorder but did not seek treatment. **CONCLUSION:** Identifying and addressing negative stigma related to mental health can improve acceptance of diagnosis and treatment. More research is needed to combat societal and internalized stigma assisting in identifying barriers to seeking care. This study identified the need to further investigate specific barriers to receiving treatment when a provider feels that they likely meet the diagnostic criteria for a mental health disorder. Additionally a study into the specific pressures to not disclose a mental health diagnosis and the consequences of said disclosure should be conducted.

Sunday May 05

### **LSD and Neuroplasticity: Epigenetic Anxiolytic and Metabolic Mechanisms**

*John Echevarria M.D.; Quddarat Mushtaq; Ossama Naveed*

**Objective:** To compile and analyze the field's current understanding of the mechanism of LSD's clinical effect with a focus on available data on the effects of LSD on neuroplasticity anxiety depression and its metabolic mechanisms in humans. **Background:** Lysergic acid diethylamide (LSD) has long been associated with profound alterations in consciousness and is currently being re-evaluated for its therapeutic potential especially in treating anxiety and depression. However the underlying mechanisms are still

not fully understood. **Methods:** We analyzed primary literature employing diverse methodologies including whole genome bisulphite sequencing proteomics profiling systematic reviews and in vitro assays to uncover the impact of LSD on DNA methylation protein expression anxiolytic effects and the metabolic process. **Results:** LSD modulates DNA methylation in the prefrontal cortex impacting neurotropic neurotrophic and neuroplasticity signaling. In conditions of stress repeated doses of LSD show anxiolytic effects potentially through enhanced serotonin neurotransmission and increased cortical synaptogenesis. No direct clinical studies were found on LSD for depression treatment though it's evident that other "classic psychedelics" like psilocybin and DMT have shown efficacy. LSD also metabolizes into several compounds with enzymes like cytochrome P450 playing a pivotal role. **Discussion:** LSD has a multi-faceted impact on the brain influencing epigenetic markers neuroplasticity and neurotransmission. Its metabolic pathways and the potential influence of genetic polymorphisms and drug interactions on its pharmacokinetics suggest a complexity in its mechanism of action. **Conclusion:** LSD shows promising therapeutic potential in the realm of mental health particularly for anxiety. A deeper understanding of its mechanisms at the genetic cellular and neural levels can pave the way for targeted therapeutic applications and safer clinical use. Further research especially direct clinical studies is imperative.

Sunday May 05

### **Mental Health Action Plan: A novel tool for mental health preventative care**

*Kelly Kossen; David Galarneau M.D.*

**Intro** A staggering one in 4 people will be impacted by a mental health condition in their lifetime (1). The idea of a health action plan is not novel; they are used in various other settings to help maintain health and prevent crisis. One of the most well-known examples is the asthma action plan which is a simple personalized plan that has demonstrated success in promoting long-term wellness and avoiding escalation of the patient's symptoms or emergencies in the setting of asthma (2). In the field of psychiatry personalized plans have also shown benefit and in several studies suicide safety plans have exhibited efficacy in reducing suicidal behavior and ideation (3). **Design** This mental health action plan was designed to elaborate on suicide safety planning and incorporate prevention early intervention and maintenance of mental health. This planning is focused on daily maintenance behaviors and contingency plans for escalation of symptoms rather than being solely for crisis management and may be implemented in persons with or without diagnosed mental health conditions. The Mental Health Action Plan similar to its asthma counterpart is personalized to the patient including their particular strategies for health optimization. **Methods** The plan is to track utilization and efficacy via a website (<https://sites.google.com/view/mental-health-action-plan/home>) and survey. **Conclusion** This novel approach to mental health promotion early intervention and prevention may prove a helpful strategy for enhancing overall mental wellness of patients. It might have particular use in the outpatient setting where patients can engage with this type of planning.

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Sunday May 05

## **PALIPERIDONE 3-MONTH INJECTION IN VERY HIGH DOSAGES: CASE REPORTS**

*Felipe Tavares M.D.*

Introduction - Paliperidone Palmitate (PP3M) is a long-acting atypical antipsychotic prescribed for patients with Schizophrenia. The medication can be applied every three months. Objectives: to describe three clinical cases in which personalized psychiatry was applied and patients are being treated with high doses of PP3M. Case description: Male patient 42 years unemployed diagnosed with Schizophrenia according to ICD-11 since the age of 18. He used Haloperidol Chlorpromazine Risperidone Clozapine throughout his life. In 2013 he began using monthly Paliperidone Palmitate (PP1M) initial dose of 150 mg/month (equivalent dose in the United States 234 mg). Due to a relapse the dose was adjusted in 2014 to a 150 mg syringe applied every 21 days. The patient remained stable until January 2020 when it was decided to migrate to PP3M with a 525 mg syringe (US equivalent to 819 mg) and a 263 mg syringe (US equivalent dose to 546 mg). Since then

the patient has remained stable with no relapses or new hospitalizations and no adverse effects. Complementary tests carried out every 6 months since the start of treatment show no changes (renal function prolactin liver function metabolic functions). Second case: 39-year-old patient retired diagnosed with Schizophrenia since the age of 20. He has already received treatments with Risperidone Quetiapine and Clozapine throughout his life. In 2019 he started treatment with PP1M 150 mg (equivalent dose 234 mg in the USA). The dose of PP1M was adjusted to 150 mg every 21 days. In February 2021 the transition was made to PP3M 525 mg per pre-filled syringe (equivalent dose of 819 mg in the USA) with two applications being prescribed every 90 days. Since then the patient has remained stable without presenting adverse symptoms and his complementary tests requested every 6 months including serum prolactin measurement and renal function remain normal. Third case: 35-year-old patient lawyer diagnosed with Schizophrenia since the age of 24. He has already been treated with Aripiprazole Risperidone Quetiapine and Clozapine. In 2016 treatment with PP1M began initial dose of 100 mg adjusted after 3 months to 150 mg every 21 days due to the persistence of positive symptoms. In 2022 the drug was replaced by PP3M a dose of 525 mg per syringe with two syringes being administered intramuscularly on the same day (dose of 1050 mg – equivalent in the United States to 1638 mg) every 75 days. This dose was necessary for the patient to remain in remission. Complementary exams requested periodically revealed nothing abnormal since the patient started therapy. Conclusion – PP3M is an antipsychotic that can be applied every 75 days or 90 days and has proven to be effective and safe in this group of patients. It proved to be an



interesting alternative for cases of refractory Schizophrenia.

Sunday May 05

### **Potential Risk Factors Among Patients Developing Venous Thromboembolism While Admitted to the Dubé Centre for Mental Health**

*Katelyn Halpape BSP ACPR PharmD BCPP; Ryan Chan; Thuy Le PhD; Annabelle Wanson MD FRCPC*

Background: Venous thromboembolism (VTE) is a common source of preventable morbidity and mortality among hospitalized patients. The incidence rate of VTE in psychiatric inpatients is not well defined and has been described as occurring in 2-25% of inpatients. Within the past 15 years the Dubé Centre for Mental Health (DCMH) clinical team has identified an ongoing trend of adult psychiatric inpatients developing acute VTE requiring urgent intervention during admission. This study aimed to identify risk factors associated with VTE development in psychiatric inpatients. Methods: A retrospective case-control chart review of patients admitted to DCMH from January 2007 to December 2021. Cases were identified through the inpatient hospital pharmacy software by screening for individuals aged 18 and older who received anticoagulation for VTE treatment. Controls were randomly selected from patients with a discharge diagnosis other than VTE. The selected case-to-control ratio was 1:4. Data was extracted coded and comprehensively analyzed using descriptive analysis univariate followed by multivariable logistic regression analysis to identify risk factors associated with VTE diagnosis. Results: A total of 32 cases and 159 controls were included. Case mean age was 52 years (SD 19.7) 65.6%

(n=21) were female and 65.6% (n=21) had no previous VTE. Comorbidities including cancer cardiovascular conditions hematological-related diseases insomnia psychiatric-specific interventions such as electroconvulsive therapy and mechanical restraints and acute medical diagnoses were independently associated with developing VTE (AORs>1.00 p <0.05). Substance use was significantly associated with decreased odds of VTE diagnosis (AORs=0.14 p<0.001). While causality cannot be inferred from case-control design the observed association may be due to the high prevalence of substance use among controls or the way substance use was reported. Conclusion: Psychiatric inpatients have unique risk factors that increase the likelihood of developing VTE. Point-of-care resources such as a VTE prophylaxis risk stratification tool targeting VTE prophylaxis for at-risk psychiatric inpatients could reduce patient morbidity and mortality. The University of Saskatchewan Interdisciplinary Summer Student Research Award and the Department of Psychiatry Laura E. Chapman and Alfred G. Molstad Trust Award financially supported this project.

Sunday May 05

### **Psilocybin Use Among Individuals with Autism Spectrum Disorders: An Online Forum Analysis**

*Parisa Thepmankorn; Stephanie Ruthberg MD; Eric Jarmon DO*

Background: Psilocybin the main psychoactive compound found in so-called “magic” mushrooms has garnered attention for its potential therapeutic applications in mental health conditions including treatment-resistant depression and substance use disorders [1]. Research

suggests psilocybin use can cause acute perceptual changes and labile moods and may foster enduring increases in prosocial attitudes/behaviors in the general population [2]. However its effects on individuals with Autism Spectrum Disorders (ASD) especially for therapeutic purposes remain largely unexplored although literature offers preliminary evidence of beneficial effects of serotonergic psychedelics on individuals with ASD [3]. Our study aims to uncover the subjective effects of recreational and/or self-therapeutic psilocybin mushroom use in those with ASD using the internet-based discussion forum Reddit. Methods: A search on the Reddit subforum r/Shrooms was conducted using the terms "autism" and "autism spectrum disorder" yielding 157 posts. Exclusion criteria included: 1) did not describe subjective effects of psilocybin 2) did not report a medical diagnosis of ASD (e.g. self-diagnosis) or 3) described simultaneous use of other substances. 37 posts were included and 120 were excluded. Qualitative thematic analysis was performed on included posts to identify shared experiences of psilocybin use among individuals with ASD. Results: Among users that described predominantly positive effects (n = 26) the most prevalent were: increased self-reflection/self-acceptance of ASD (reported by 53.8%) decreased emotional/sensory overload (34.6%) enhanced sociability (30.8%) increased empathy (30.8%) increased feeling of connection to others or the world (30.8%) and greater understanding of others' expressions/body language/social cues (19.2%) and increased openness to trying new things or deviating from routine (19.2%). Those with predominantly negative trips (n = 6) reported issues ranging from nausea and vomiting chills sensory overload release of repressed traumatic memories and residual

effects. 5 (13.5%) posts reported no or limited psychotropic effects even after considerable psilocybin consumption (mean dose = 4.64g). Further 3 positive trip reports (8.3%) noted needing a high dose (?5g) to experience psychotropic effects. Discussion: The majority of individuals with ASD reported positive pro-social subjective effects after consuming psilocybin mushrooms. However some reported notable adverse effects and others required a larger-than-expected dose to experience its psychotropic effects. These variations underscore the need for careful consideration of psilocybin's effects on those with ASD a very heterogeneous population as it may not be universally beneficial. While promising additional research on psilocybin's safety and efficacy in individuals with ASD as well as factors for its therapeutic administration (e.g. dose setting) remains necessary."

Sunday May 05

### **Psychiatric Co-morbidities of Patients with Somatic Symptom and Related Disorders in One Academic Health System**

*Katherine Wu; Elli Novatcheva M.D.; Daniel Thompson M.D.; Anne Stewart*

INTRODUCTION: According to the Merck Manual somatic symptom and related disorders (SSRDs) are mental health disorders characterized by an intense focus on physical (somatic) symptoms that causes significant distress and/or interferes with daily functioning." SSRDs include but are not limited to somatic symptom disorder illness anxiety disorder and factitious disorder. Patients with these disorders may endure long-standing suffering from delayed diagnosis and treatment of their SSRD. This study examines various psychiatric co-morbidities to help clinicians tailor

therapeutic approaches to SSRDs.

**METHODS:** We used the TriNetX Analytics database for the University of Virginia Health System to analyze 1.61 million patients seen between 2011 and 2023. The study cohort was defined as adult patients with a diagnosis from the SSRD family as labeled by the DSM-5. We were interested in how many patients had co-morbid diagnoses of anxiety disorders (F41) mood disorders (F30-F39) and personality disorders (F60 F21 F0.70) PTSD (F43.1) and various substance use disorders (F10-11 F13-18) that were active within a year of an active SSRD. **RESULTS:** The cohort with factitious disorder had the highest prevalence of personality disorders (20% or 20/100) substance use disorders (30% or 30/100) and mood disorders (70% or 70/100). The cohort with somatic symptom disorder had the highest prevalence of PTSD (10.2% or 30/290). The cohort with illness anxiety disorder had the highest prevalence of anxiety disorders (66.7% or 80/120). The prevalence of personality disorders in our total SSRD cohort during the TriNetX data collection period was 3.3% (220/6580) compared the lifetime prevalence of any personality disorder in U.S. adults (9.1%) according to the National Comorbidity Study Replication. The prevalence of personality disorder in factitious and somatic symptom disorder cohorts surpass this percentage (20% and 10.3% respectively). Unique to patients with illness anxiety disorder 50 of the 120 patients (41.7%) had body dysmorphic disorder. **DISCUSSION:** In the SSRD cohort there was a lower prevalence of personality disorders than found in general population. This result supports that somatization of psychological distress to a pathological degree should not be regarded as synonymous with a disruptive long-standing pattern of thinking. From our results patients with factitious disorder may more

frequently have other psychiatric co-morbidities and require more intensive psychiatric care. Patients with illness anxiety disorder should be screened for body dysmorphic disorder to receive the evidence-based treatment for that disorder."

Sunday May 05

### **PSYCHIATRIC THERAPEUTICS IN THE BEGINNINGS OF PSYCHOPHARMACOLOGY MODERN: The case of the Toén Psychiatric Hospital (Ourense) and other centers in Gali**

*Beatriz Rodríguez Rodríguez; David Simón-Lorda; Nabonazar Navarro; Paula Martínez Gimeno*

**Objective:** This work intends to make a summary of the evolution of psychiatric therapeutics and the revolution occurred with the introduction of psychotropic drugs in Galician psychiatry. **Material and methods:** we have reviewed the bibliography on the history of psychiatry and the development of psychiatric therapy as well as the evolution and development in Spain and specifically in Galicia by means of the use of magazines and newspapers of that time. On the other hand the clinical histories of the 1950s and 1960s of the Conxo asylum and the database of some admissions and the pharmacy sheets of the Toén psychiatric hospital has been consulted. **Results:** In 1952 the first antipsychotic chlorpromazine was commercialized in France. According to our sample it was already being prescribed in private psychiatric clinics in Galicia since 1955. Until 1958 the therapies used in Conxo's asylum were barbiturates insulin therapy and electroshock. From 1958 onwards the first antipsychotics were introduced: chlorpromazine reserpine and haloperidol. In the following decade the use

of a wider range of psychotropic drugs increased while the indications for the electroconvulsive therapy became more restrictive and insulin therapy fell into disuse in 1966. The Toén sample record the use of psychotropic drugs since its opening in 1959 and ETC and insulin therapy were also implemented although to a lesser extent. Conclusions: The introduction of psychopharmaceuticals represented the Fourth Psychiatric Revolution and over the years it allowed the deinstitutionalization of a large number of patients. In Galicia there are data showing that psychotropic drugs were already implemented during the 1950s evidencing their early introduction in the public and private community's asylums. Key words: history psychiatric therapeutics psychopharmaceuticals antipsychotics Galicia

Sunday May 05

### **Re-visiting the Association of Antidepressant Use and the Risk of Lung Cancer: A 10-year Retrospective Observational Cohort Study**

*Ching-Fang Sun M.D.; Anita Kablinger*

Background: Several observational studies raise the concern of possible correlations between the use of antidepressants and increased risks of lung cancer. However existing studies are limited with small sample size unadjusted covariates especially smoking status unclear antidepressant exposure duration and short follow-up period. Antidepressants are commonly prescribed for various psychiatric conditions and their safety profiles significantly impact treatment adherence. Therefore the association between antidepressant prescriptions and lung cancer needs to be meticulously evaluated. Methodology: We conducted a

retrospective cohort observation by analyzing deidentified patient information between 2013-2023 on the TriNetX database. The study cohort was defined by individuals aged 18-65 with anxiety disorders (International Classification of Diseases-10-CM ICD: F40-49) and/or mood disorders (ICD: F30-39) who had at least 12 antidepressant prescriptions prior to the follow-up period. The control cohort was defined by individuals aged 18-65 with anxiety disorders and/or mood disorders who had no previous antidepressant exposure. We excluded individuals with any history of lung cancer (ICD: C34) or nicotine exposure (ICD: F17.2 T65.2 Z57.31 Z71.6 Z72.0 Z77.22 Z87.891) prior to the index event. The study cohort was propensity-score matched with the control cohort at a 1:1 ratio by age sex race and ethnicity. Outcome was defined as any type of lung cancer. We performed logistic regression to obtain the odds ratio followed by subgroup analysis. We performed analysis with the same logic to individuals with a history of nicotine exposure. We did not analyze MAOIs for both smokers and non-smokers due to limited sample size. Result: A total of 232884 non-smoking patients were identified and matched for analysis. Long-term antidepressant prescriptions were related to decreased lung cancer risk during the 10-year follow-up period (Odds ratio [OR]=0.56 95% CI=0.43 0.73). Subgroup analysis in non-smokers showed decreased risk in the SSRI group (OR=0.50 95% CI=0.33 0.77) and no risk difference in the SNRI group (OR=0.78 95% CI=0.39 1.56). Long-term antidepressant prescriptions in smokers were related to decreased lung cancer risk as well (OR=0.83 95% CI=0.71 0.95). Subgroup analysis in smokers showed decreased risk in the SSRI group (OR=0.72 95% CI=0.57 0.92); no risk difference in those taking SNRIs (OR=0.78 95% CI=0.52 1.17) bupropion (OR=0.64 95%

CI=0.37 1.13) trazodone/nefazodone (OR=0.63 95% CI=0.36 1.12) or TCAs (OR=0.76 95% CI=0.37 1.58). Conclusion: Long-term antidepressant prescriptions are not associated with increased lung cancer risk in both non-smokers and smokers. Clinicians can reassure patients who have concerns about the correlation between antidepressants and lung cancer. We did not receive any funding for this study.

Sunday May 05

### **Risk factors for thromboembolism in patients on chronic antipsychotics**

*Katherine Wu; Jason Shugoll; Catherine Zisk*

**Background** Patients on chronic antipsychotics are at elevated risk for thromboembolism due to several associated factors: decreased mobility and sedentary lifestyle as a consequence of barriers placed by the mental illness hypercoagulability resulting from the antipsychotic's action and presence of medical comorbidities often leading to polypharmacy. We now present three cases of pulmonary embolism (PE) occurring in patients on antipsychotic medication. **Cases** Mr J is a 33-year-old male who was admitted for depression and psychosis. He was initially started on aripiprazole and escitalopram with good response but self-discontinued treatment after discharge. The patient was then started on oral paliperidone with a plan to transition to the long-acting injectable given this concern for compliance. Fifty-three days after the injection he returned to the hospital with dyspnea and was diagnosed with bilateral PEs. Ms. C is a 66-year-old female with Bipolar I Disorder who was stable for many years on quetiapine venlafaxine and aripiprazole. She was found to be an ultra-rapid metabolizer of these medications and

required high doses of psychotropic medications to achieve response. She was also on transdermal estrogen started many years earlier for mood symptoms in the peripartum period. Ms. C similarly presented with dyspnea and was found to have multiple subsegmental PEs on imaging. Ms. K is a 48-year-old female with schizoaffective disorder managed with clozapine clonazepam and trazodone. She presented to the hospital with delusional thought content and command auditory hallucinations. Her exam was notable for rigidity torticollis and amblyopia. She was diagnosed with decompensated schizoaffective disorder with catatonic features. Haloperidol and lorazepam were administered to manage her symptoms but ~12 hours later she developed hypotension hypoxia and unilateral calf pain; imaging confirmed saddle PEs. **Discussion** Early studies demonstrated a heightened risk of PE with clozapine and this risk was expanded to haloperidol risperidone prochlorperazine amisulpride and olanzapine shortly after. A recent systematic review of 28 studies confirmed an increased risk for thromboembolism in antipsychotic users compared to non-users. One proposed mechanism implicates dose-related increases in prolactin levels. Through antagonism of the D2 receptors in the hypothalamic tuberoinfundibular system and on pituitary lactotrophs prolactin levels increase. Studies suggest prolactin may increase production of coagulation factors and enhance platelet activation. There are additionally many genetic and acquired risk factors for developing this complication including recent surgery immobilization hormone therapy malignancy obesity and heavy tobacco use-- as implicated in the cases above. Regardless of etiology it is important to weigh these risk factors when



initiating treatment with an antipsychotic and address modifiable factors to mitigate risk.

Sunday May 05

### **Should we be prescribing stimulants to patients with multiple sclerosis? A case report of stimulant-associated psychosis**

*Hailey Kindt BS*

Multiple sclerosis (MS) is a chronic demyelinating disease of the central nervous system that can present with various neuropsychiatric manifestations including “cognitive fog” which is a term used to describe the various cognitive processes such as attention and concentration that may be slowed in patients with MS. Stimulant medications have been shown to improve processing speed and fatigue in patients with MS and are therefore often prescribed in this population. Psychosis is another psychiatric manifestation reported in MS with possible etiologies suggesting the role of enhancing lesions use of corticosteroids for acute flare treatment or disease-modifying therapies. Stimulants have been shown to trigger or worsen psychosis in individuals with underlying psychiatric disorders. However there is no known link between stimulant use and psychosis in a demyelinating disease such as MS. We present a case of a 53-year-old woman with secondary progressive MS (maintained on ocrelizumab) and cognitive fog symptoms who presented to the inpatient psychiatric hospital for worsening delusions. She was hospitalized on the medical floor four weeks before admission for an acute exacerbation of MS and received a course of corticosteroids. Upon relative stabilization of her psychosis with aripiprazole her home stimulants were resumed to treat MS-related fatigue and inattention. She experienced an emergence of psychotic symptoms in

association with both immediate-release and extended-release forms of methylphenidate and modafinil with prompt improvement of symptoms upon discontinuation in an apparent on-off phenomenon. Due to their ability to increase dopamine some argue for avoiding stimulants in patients vulnerable to schizophrenia or those with bipolar disorder as they can provoke psychosis and mania/hypomania respectively. However there is a lack of literature regarding the safety of stimulant use in patients with MS. Steroid-associated psychosis usually occurs within a week of treatment and underlying pathophysiology may be related to increased dopaminergic activity. Our patient’s hospitalization for psychosis was preceded by hospitalization for an acute MS exacerbation where steroids were prescribed raising the question about the roles of demyelination and steroids in potentiating the effects of stimulants. Although the generalizability of our results is limited due to this being a single report one might be cautioned to prescribe stimulants for cognitive symptoms in a patient with MS especially those with MS-related psychosis or a separate psychotic disorder. Additional research is needed to assess whether certain medications for mental fatigue are more tolerable for these individuals. In conclusion stimulants are commonly used treatments for MS-related cognitive dysfunction inattention and mental fatigue. However caution is warranted as they may be associated with psychosis in this population.

Sunday May 05

### **Substance Use Along the Spectrum of Borderline Personality Disorder: A Descriptive Analysis**

*Ethan Faries*

**Objective** Patients diagnosed with Borderline Personality Disorder (BPD) frequently have one or more co-occurring Substance Use Disorders (SUD). While this comorbidity has been noted the relationship between BPD traits and severity of substance use is not well understood. This study examined the prevalence of substance use in patients with different degrees of BPD symptomatology. **Methods** In this cross-sectional study adults from a single site (n=1335 Male= 721 Female= 614 Mean age= 37.5 SD= 16.4) were screened for BPD using the Standardized Clinical Interview for the DSM-V (SCID) and grouped as not having BPD traits (n=552) some BPD traits (n=563) and full BPD criteria (n=220). Level of substance use was measured using the World Health Organization Alcohol Smoking and Substance Involvement Screening Test (WHO-ASSIST) giving an overall score and sub-scores for 10 different substances. Differences in substance use severity across the three groups were assessed using the Kruskal-Wallis test. **Results** We found significant differences across the three groups with regards to overall substance use score with mean ranks of 532.86 for no BPD traits 653.32 for some BPD traits and 705.28 for full BPD criteria ( $p < .001$   $H = 46.418$   $df = 2$ ). There were also significant differences among groups for the sub-scores regarding the use of cannabis ( $p < .001$   $H = 94.714$   $df = 2$ ) tobacco ( $p < .001$   $H = 32.489$   $df = 2$ ) alcohol ( $p < .001$   $H = 21.218$   $df = 2$ ) cocaine ( $p < .001$   $H = 30.063$   $df = 2$ ) amphetamines ( $p < .001$   $H = 25.262$   $df = 2$ ) inhalants ( $p < .001$   $H = 25.877$   $df = 2$ ) hallucinogens ( $p < .001$   $H = 34.105$   $df = 2$ ) opioids ( $p = .004$   $H = 11.031$   $df = 2$ ) and sedatives ( $p = .041$   $H = 6.391$   $df = 2$ ). **Conclusions** The results of this investigation reveal a stepwise relationship between severity of overall substance use and BPD symptomatology. This relationship also

extends to the use of 10 specific substances. Further research should seek to characterize the pathophysiology of comorbid BPD traits and substance use.

Sunday May 05

### **The association between benevolent childhood experiences and postpartum depression: a literature review**

*Meredith Nastruz; Katayun Fethat; Jonathan Terry*

**Background:** Adverse childhood experiences (ACEs) are a common 10-item composite among the mental health community known to positively correlate with risk of morbidity and mortality into adulthood. Benevolent childhood experiences (BCEs) are a similar 10-item measure alternatively grading positive experiences in terms of safety security and close attachment leading to a strong negative correlation between BCEs and adult psychopathy. One future application of BCEs can be helping the 1 in 8 women who give birth and experience depressive symptoms peripartum. This literature review aims to analyze the efficacy of using BCEs to predict pregnant women's risks of postpartum depression. **Methods:** We performed a systematic literature search with the phrases "BCEs" "benevolent childhood experiences" "pregnancy" "postpartum depression" "postpartum" and "peripartum." Studies were included if they investigated the correlation between BCEs and pregnancy and excluded if published outside of January 2018-August 2023. **Results:** Four studies were identified in this search that were published within this topic area and timeframe all finding a significant negative correlation between BCEs and maternal distress after birth specifically but not limited to postpartum depression.

Roughly 500 women were included across these studies leading to the consistent conclusion that BCE scores were significantly negatively correlated with postpartum depression even when controlling for level of antepartum depression. The HiTOP model was constructed by comparing the scores of 292 pregnant women's ACEs BCEs Personality Inventories-brief form from the DSM-5 baseline emotional measures substance use a personal report of behaviors and a survey of negative life events during the time of pregnancy. This model is found to strongly correlate with both ACEs and BCEs and can use each of these factors to better predict her psychopathology during the time surrounding childbirth. Conclusion: BCEs have been shown repeatedly in these new studies to be protective in postpartum depression. Although there are few studies in this correlation this review demonstrates that adding BCEs to the screenings during pregnancy will aid physicians in anticipating women's needs for adverse events peripartum especially but not only postpartum depression.

Sunday May 05

### **The Experience and Interplay of Grief Burnout and Depression amongst Pediatric Residents: Results from a National Survey**

*Morgan Nakatani; Gregg Robbins-Welty; Connie Scoggins; Anthony Galanos*

Background: Pediatric residents are exposed to distressing clinical encounters throughout training. In the current literature there is little exploration of the impact of these encounters on grief burnout and depression. We conducted a national survey of pediatric residents to characterize their experiences and the association between grief burnout and depression among trainees. Methods: In

a cross-sectional study we distributed an anonymous questionnaire created with Qualtrics online software to pediatric residents and collected sociodemographic quantitative and qualitative data. Pediatric residents were contacted through residency program directors with e-mails obtained through the Fellowship and Residency Electronic Interactive Database Access System (FREIDA). Grief burnout and depression were measured with the Traumatic Grief Inventory Self-Report (TGI-SR) Maslach Burnout Inventory (MBI) and Patient Health Questionnaire-9 (PHQ-9) respectively. Results: A total of 138 participants opened and started the survey. 35 participants completed the grief burnout and depression scales (25.4%). 34 participants were current pediatric residents (97.1%). 24 residency programs were represented. 23 participants were female (65.7%). 48.6% of participants reported ages between 30 to 35 years old and 42.9% reported ages between 25 to 30. TGI-SR scores averaged 13.5 (SD=12.5; Range=0-55). No responses met the criteria for pathologic grief (TGI-SR>61). MBI scores averaged 29.4 (SD=7.46; Range=12-42). 24 respondents met the criteria for clinically significant burnout (scores>27; 68.6%). PHQ-9 scores averaged 6.77 (SD=6.00; Range=0-25). 14 participants met the criteria for mild depression (scores 5-9; 40.0%). 2 participants met the criteria for moderate depression (scores 10-14; 5.71%) while 5 participants reported moderately severe or severe depression (scores 15-27; 14.3%). Conclusion: Pediatric residents experience marked grief burnout and depression. The majority of surveyed residents reported clinically significant burnout and mild to severe depression. Rates of burnout were higher in our cohort (68.6%) compared to previously published rates amongst pediatric residents (54% in 2018).

Notably there was a low survey completion rate of 25.4%. This rate may have been due to the long survey length which was necessary to collect comprehensive data surrounding grief burnout and depression and is rare in the current literature. In addition emotionally burdensome content of the survey and lack of compensation may have limited responses. Interestingly most participants who completed the survey were 30 to 35 years old perhaps suggesting that older trainees have increased willingness to complete comprehensive surveys. Future studies should not only aim to identify protective factors and strategies but also ask pediatric residents which interventions if any would be helpful to mitigate grief burnout and depression throughout training.

Sunday May 05

### **The Relationship Between Kratom Use and Worsening Psychotic and Manic Symptoms: A Comprehensive Review of Cases and a Hospital Case Report**

*Brittany Griffin M.D.; Saeed Ahmed MD;  
Lauren Harbaugh*

Objective: Kratom use has been associated with the worsening of psychotic and manic symptoms yet current research is limited to case reports and case series. The purpose of this review is to synthesize and critically evaluate the existing literature on Kratom use and its association with psychotic and manic symptoms to identify potential areas for future research and to contribute a case from our hospital to improve understanding of the risks associated with Kratom consumption in vulnerable populations. Methods: Six studies were found using keywords related to kratom mania and psychosis in five major databases PubMed Scopus Google Scholar Web of Science and PsycINFO. Additionally

we present a case from our hospital. Eligibility criteria included English language case reports or case series describing kratom-induced mania or psychosis and sufficient details on kratom use. Data synthesis was conducted narratively focusing on patient demographics clinical features risk factors and treatment interventions. Results: This paper analyzes 11 cases involving Kratom use from previous publications and a case from our hospital. The ages of patients ranged from 18 to 65 years with a median age of 35 and a majority of them were male (8 out of 11). These patients had different durations of Kratom use ranging from 2 weeks to 15 years. Our study found a significant association between Kratom use and the worsening of psychotic and manic symptoms in individuals with psychiatric conditions. We observed that Kratom use could trigger psychosis and mania in individuals vulnerable to psychiatric disorders. The patients received different types of treatments across the studies which included antipsychotics mood stabilizers and inpatient psychiatric care as well. Most patients had a reduced or complete resolution of symptoms; some returned to baseline functioning. Conclusions: The case reports or case series included in this paper have inherent limitations. However our research highlights the possibility of co-occurring disorders in the context of pre-existing psychiatric conditions and kratom use. Similarly this study underscores the need for clinical evaluation of drug use ( kratom in this case) in those with psychiatric conditions as illustrated by the case study we presented from our personal experience. Additional research is required to gain a more comprehensive understanding of the potential mental health implications of kratom use especially among populations more vulnerable to its effects.

Sunday May 05

## **The Use of Antidepressants in Restless Legs Syndrome: Clinical Pearls for the Psychiatrist**

*Randall Li; Liliya Gershengoren*

Background: Restless Legs Syndrome (RLS) is a condition characterized by discomfort that primarily affects the legs improves with movement and worsens in the evening. Depression is a frequent psychiatric comorbidity in patients with RLS and the association is clinically relevant. Some case studies suggest that antidepressant (AD) treatment may promote RLS symptoms but the current evidence is contradictory. Consultation-liaison psychiatrists are frequently asked whether AD should be discontinued started or modified in RLS patients. A structured framework will help standardize management for patients with RLS who present with depression or who develop RLS while on AD treatment. Methods: We conducted a literature review using PubMed to identify studies assessing the association of AD treatment and RLS. Results: There are no obvious mechanisms by which most AD classes could cause or worsen symptoms of RLS. Some systematic studies have shown no statistically significant association between RLS and any specific class of AD while others have shown improvement in preexistent RLS symptoms after starting AD treatment. A prospective observational study demonstrated that AD-induced RLS may exist but that pure SSRIs and SNRIs carry an average risk of 5% for inducing or exacerbating RLS. RLS occurred early during the course of AD treatment at a median of 2.5 days. Mirtazapine is an outlier and lead to 28% of patients developing RLS symptoms. In one randomized controlled trial bupropion did not appear to exacerbate symptoms of RLS. Discussion: Patients

should be evaluated on the first visit following AD initiation for new or worsening RLS symptoms. In the absence of deterioration it is unlikely that symptoms of RLS will emerge. If the patient endorses mild symptoms of RLS consider continuing the medication given the high likelihood of abatement. If symptoms are intolerable it is reasonable to switch to another AD because the probability that RLS recurs with the new drug is low. Patients initiated on Mirtazapine are at heightened risk of RLS relative to other ADs and should be monitored. Bupropion was not found to exacerbate RLS symptoms and could be a good choice for RLS patients with depression. Conclusion: The development or deterioration of RLS on AD treatment is uncommon. When AD-induced RLS occurs it is usually within the first days of treatment. If RLS symptoms persist and are intolerable the patient may be switched to an alternative AD because the probability of recurrence is low. Bupropion may be a reasonable choice for management of depression in RLS patients given targeted treatment of nighttime dopamine deficiency and no reported exacerbation of RLS symptoms.

Sunday May 05

## **Ventricular bigeminy after initiation of olanzapine**

*Rubab Islam; Laura Rodriguez-Roman*

Antipsychotic medications are known to have a cardiac effect most notably prolongation of the QT interval. Some antipsychotics such as the phenothiazines and quetiapine have been reported to induce other changes including premature ventricular contractions however this has not been documented with the use of therapeutic doses of olanzapine. A woman in her 40s with no known cardiac history was admitted to the inpatient psychiatric hospital



with symptoms of mania and psychosis presented with paranoia and agitation. She was started on olanzapine 5mg nightly and two days later increased to 10mg nightly which led to clinical improvement in symptoms. A baseline EKG on admission revealed a Qtc of 491. For this reason two days after titrating to 10mg of Olanzapine a repeat EKG was performed for monitoring of the Qtc interval. The repeat EKG revealed new ventricular bigeminy with sinus tachycardia patient was asymptomatic and hemodynamically stable at the time. Electrolytes including potassium magnesium and phosphorus were noted to be within optimal range patient was on no other high-risk medications and urine drug screen had not revealed any substances. After consulting with family medicine olanzapine was discontinued to assess if this was the cause. The following day repeat EKG showed complete resolution of the ventricular bigeminy and tachycardia. This case highlights the importance of appreciating electrophysiologic cardiac effects of antipsychotics beyond just Qtc prolongation. Though in this case the patient was asymptomatic long-standing ventricular bigeminy and premature ventricular contractions can lead to future complications such as increased risk of developing atrial fibrillation. If there are other feasible medication options the offending agent should be discontinued to avoid long-term effects. Further studies may be needed to determine if the effect is dose-dependent.

Sunday May 05

**When Clozapine Fails – Alternative Psychopharmacological Regimens for Clozapine-Resistant Schizophrenia: a scoping review.**

*Adil Elahi; Asmeret Berhane; Enque Endeshaw MD; Janna Volkov*

Introduction: Clozapine is the standard of care for treatment-resistant schizophrenia. However up to a third of patients will have a partial or no response to treatment despite an adequate trial of clozapine. There are no accepted guidelines for pharmacological alternatives in the treatment of clozapine-resistant schizophrenia (CRS) and electroconvulsive therapy is not always a feasible option. This paper is a scoping review of literature regarding various pharmacological regimens attempted for treating CRS. Methods: A systematic search using the [Title/Abstract] filter was conducted on PubMed and Google Scholar to identify articles related to CRS (and similar terms). Three researchers reviewed a total of 268 abstracts. The inclusion criteria were limited to only observational articles that assessed psychopharmacological modifications with objective measurement tools such as the Positive and Negative Symptom Scale (PANSS) the Brief Psychiatric Rating Scale (BPRS) and Global Assessment of Functioning (GAF). After screening 50 full-text articles only 27 were included in the final analysis. Results: In this scoping review the most tested medication was amisulpride both as an adjunct and a replacement for clozapine. The randomized controlled trials (RCTs) and retrospective studies on amisulpride demonstrated significant improvements in the total and negative scores of the PANSS the BPRS as well as other objective measures. This finding was also observed in case series that included children and adolescents. The largest improvement reported by a study was an 86-point drop on the PANSS total score and a 30-point increase on the GAF. Several medications exhibited significant improvements on the PANSS negative

subscale as adjuncts to clozapine such as Brexpiprazole Memantine Ropinirole and Sodium Nitroprusside. Significant improvements were reported using Quetiapine Loxapine Gabapentin and Fluvoxamine augmentation on the BPRS. Papers also reported positive outcomes after switching from clozapine to cariprazine (55 points on SANS) or clotiapine (13 and 16 points on PANSS). One study indicated no significant improvement when removing olanzapine adjunct using the GAF. Notably clozapine without adjunctive glycine showed better results compared to with adjunctive glycine. Other assessment tools commonly used were the SAPS CGI RBANS and UKU scales among others. Conclusion: Managing CRS pharmacologically can be challenging particularly due to the absence of set guidelines. Most clinicians choose to add adjunctive medications to clozapine while fewer opt to switch to a different medication altogether. Both approaches are viable options with varying results. The findings in this study underscore the potential benefits of various pharmacological regimens in the treatment of CRS. However it is crucial to consider a patient's individual needs when making treatment decisions. It is prudent to do further objective analyses on the treatment of CRS.

Monday May 06

**Acting Together: A novel theater-based Cultural Literacy Curriculum empowers Asian American Native Hawaiian and Pacific Islander healthcare trainees**

*Elizabeth Li M.D.;MHS; Ingrid Chen MD; Alicia Leong; Eunice Yuen*

Introduction: Asian American Native Hawaiian Pacific Islander (AANHPI) healthcare trainees often experience racial

bias in the clinical setting but the American medical education system lacks a structured curriculum to address this. Acting Together is a novel webinar-based culturally informed education platform that employs improvisation and interactive theater techniques to teach trainees to navigate bias prejudice and stereotype experiences in clinical settings. We aim to evaluate the program's feasibility and acceptability impact on implicit bias recognition and participant attitudes on cultural dilemmas in the clinical setting. Methods: Each Acting Together webinar consists of three modules: 1) improvisation to create a sharing and non-judgmental framework 2) interactive theater to "act out" and "take two" regarding the presented cultural dilemma and 3) panel discussion. Self-identified AANHPI healthcare trainees were recruited via institutional listservs affinity group listservs and word of mouth. Study participation involved completion of pre- and post-program online surveys with an optional focus group discussion. Mixed methods were used to analyze pre- and post- program survey data from the first two webinars (August and November 2023) which included demographic questions the Implicit Bias Attitude Scale the Medical Improv Curriculum and the Feasibility and Acceptability Scales. Responses to the Implicit Bias Attitude Scale were analyzed using Paired-Samples T-Tests in R (v4.3.1). Focus group discussion was analyzed by iterative review by 6 individual coders using thematic analysis. Results: 81 total attendees attended the first two webinars with 58 (72.8%) completing the pre/post studies and 32 (39.5%) completing the qualitative interview. Participants reported enhanced engagement (80.5%) peer connection (68.3%) confidence (68.3%) communication skills (70.7%) wellness (68.3%) adaptability (75.6%) proactivity in

their professional career (80.5%) and ability to seek support when cultural dilemmas occur (68.3%). While scores on the implicit bias attitude scale did not significantly differ 68.3% of participants reported improved ability to recognize implicit bias. Furthermore 90.2% of participants indicated Acting Together was easy to adapt to their respective training program 82.9% would join the program again and 90.2% would recommend the program to their colleagues. Themes from the focus groups were congruent with these findings. Conclusion and Discussion: Preliminary quantitative and qualitative data supports Acting Together's feasibility and adaptability and empowers trainees to understand and handle cultural dilemmas in clinical settings. Future directions include collecting additional webinar data and completing sub-group analyses considering demographic factors such as age gender and racial/ethnic identity and reinforcing the program's focus on implicit bias education.

Monday May 06

### **Advancing Measurement-Based Care: Implementation of an Open-Source Electronic Patient-Reported Outcomes System Across Outpatient Psychiatric Settings**

*Emily Berich-Anastasio MPH LGPC; Amber Bailey MHS; Alexander Maclay; Robert Schloesser M.D.*

Background: Measurement-based care (MBC) particularly use of patient-reported outcomes (PRO) has demonstrated effectiveness in mental health care with symptom and treatment monitoring. Despite evidence of their efficacy and endorsement from major organizations obstacles to implementing PROs in mental health care persist. Certain barriers can be mitigated with the adoption of

electronic PROs (ePROs). Various implementation science frameworks may aid in establishing ePROs at the point-of-care. These frameworks allow for structured implementation procedures consistent evaluation collection of qualitative and quantitative data and opportunities to adapt or modify ePRO systems. Methods: The Sheppard Pratt Health System (SPHS) has developed a standardized ePRO system to implement measurement-based care; Point-of-Care Dashboards Analysis and Reporting Toolkit (PoCDART). This open-source system aims to support routine collection and analysis of ePROs expand the current ePRO system optimize staff training and workflows to support ePRO usage and enhance the patient experience of ePROs with brief time efficient measures and a user-friendly interface. Implementation of ePROs took place at multiple outpatient clinics with distinct clinical populations and operational profiles. Balasubramanian's Learning Evaluation (LE) framework and Glasgow's RE-AIM were used to guide the implementation and evaluation of ePRO usage. Contextual and explanatory factors related to ePRO implementation and effects on patient outcomes were captured. Regular learning meetings and a support ticketing system allowed for continuous audit and feedback from stakeholders. User feedback was systematically captured using field notes and a support tracking database; modifications were developed and prioritized through a governance process. Small rapid Plan-Do-Study-Act (PDSA) cycles at each study site facilitated ideas for modifications. Modifications were documented using FRAME and developed using agile methodology. Implementation and outcome metrics based on RE-AIM evaluated the process over time. Results: Over 2023 over 14 thousand ePRO batteries have been

completed in these outpatient clinics. 51% (n=6095) patients have completed at least one ePRO while 25% (n=1548) have completed longitudinal ePROs. 8852 instances of ePRO documentation in the EMR by a clinician have occurred. Exploratory data analyses have elucidated differences of the characteristics of patients' ePRO completion based on various demographic data (e.g. age gender race etc.). Conclusion: Using the principles of LE RE-AIM and PDSA deployment of an automated measurement based care system in outpatient psychiatric clinical settings has been successful. Ongoing use of this system at the point-of-care demonstrates its sustained effectiveness.

Monday May 06

### **Anxiolytic Consumption During Periods of Stress: Do Medical Students Self-Medicate?**

*Amalesh Honnekeri*

Background: While numerous studies have established a high prevalence of psychological stress among medical students globally there remains a lack of data regarding their patterns of self-medicating with anxiolytics. This study explored various trends pertaining to this practice among medical students in Mumbai. Methods: Institutional Ethics Committee approval was obtained prior to the commencement of this study. Online material was administered to 180 medical students enrolled in different years of medical education in Mumbai India. This material included an information sheet an informed consent form a pre-validated questionnaire and the Perceived Stress Scale (PSS 10). Anonymity and confidentiality were assured to the participants. As per the PSS 10 scores ranging from 0 to 13 indicated low

stress from 14 to 26 indicated moderate stress and from 27 to 40 indicated high stress. The other questionnaire contained objective questions. Data were imported into Microsoft Excel sheets from Google forms and analyzed using the Statistical Package for Social Sciences - Version 15.0. Results: Analysis of the PSS 10 administered to this cohort revealed that 16% of the study subjects had experienced high perceived stress 61% had experienced moderate perceived stress and 23% had experienced low perceived stress. Further evaluation via the objective questionnaire showed us that 14% study respondents had considered using an anxiolytic without being prescribed one and 6% respondents had made actual attempts to obtain anxiolytics without licensed medical supervision. 49% study subjects felt that they had neglected their health and wellness due to psychological stress. Examinations academic burden and apprehensions about the future were noted to be the most common causes of stress in the cohort. In the previous month it was found that 2% study subjects had self-medicated with anxiolytics thrice a week or more 2% had self-medicated with anxiolytics between 1-2 times a week 1% had self-medicated with anxiolytics once in two weeks and 5% had self-medicated with anxiolytics once in the entire month. Conclusion: This study revealed an alarming trend of consumption of anxiolytics by medical students in the absence of appropriate medical advice and supervision. It not only established the prevalence of psychological stress in the cohort but also delved further into the circumstances surrounding which medical students experience stress as well as the intricate patterns of self-medicating with anxiolytics during stressful periods. This study thus points towards a worrisome reality and the need to have stronger monitoring

systems in place to check this practice while adding a new dimension to existing literature. This was a sub study of a larger study that assessed a broader spectrum of self-medication trends and practices among medical students in Mumbai which received the Short-Term Studentship (STS) from the Indian Council of Medical Research (ICMR).

**Monday May 06**

### **Assessing Patient Depression & Anxiety Treatment Outcomes on an Asynchronous Telemedicine Platform**

*Neil Zlatniski; Chelsea Orcutt; Neil Parikh; Brett Ashton*

**Description** Anxiety affects 19.1%(1) and depression 18.4%(2) of the population in the United States. About 60% of those affected by mental health issues have not received treatment in the past year due to geography cost or other factors. The study objective was to describe clinical outcomes of patients with symptoms of depression and/or anxiety managed through an asynchronous telemedicine care model. **Abstract** This retrospective study evaluated patients who self-enrolled in an asynchronous telemedicine platform Nurx for access to clinical services for anxiety and depression. Patients had access to ongoing medication management provided by advanced practice providers or physicians under the guidance of a psychiatrist. At intake patients complete a condition-specific questionnaire with multiple standardized mental health assessments including the PHQ-9 & GAD-7. Rating scale and patient satisfaction with treatment data was captured on a scheduled cadence. The study included patients who initiated treatment between March 2022 and March 2023 presented with anxiety and depression scores in the Moderate range

(score of 10-14) and for whom at least 6 months have elapsed since starting treatment. A sample of these patients (n=6346) were evaluated at 3 and 6 month checkpoints during the course of this study. The patient-reported outcome goal at 3 and 6 month checkpoints for patients receiving ongoing treatment was either clinical response (score reduction ≥50%) or remission (score <5). For reference cumulative long-term remission rates of 49.7% - 52.3% at 6 months for depression(3) and 41.1 % for anxiety(4) were used as reported in traditional care settings. Patient demographics and wait times were captured as well. **Method** Retrospective study: **Clinical outcomes** Results Of the 6346 study patients 75.6% & 50.2% completed assessments at 3 and 6 months after treatment initiation. For anxiety and depression respectively by 3 months 17.5% and 15.4% achieved clinical response and 64.3% and 60.1% reached remission. By 6 months 16.4% and 14.0% showed response 69.6% and 65.3% were in remission. 89.9% of patients were female average age 31.9 years with 51.2% residing in whole-county mental health HPSAs. Average wait time to care was 8.7 days vs 26 days for primary care settings(5). **Conclusions** This study highlights the potential of asynchronous telemedicine to offer patient outcomes comparable to traditional care models for patients suffering from anxiety and depression including for patients in medically underserved areas (51.2% of study patients are in whole-county mental health HPSAs) with reduced wait times for care (average 3.5 versus 26 days for primary care). Further studies should explore outcomes at other checkpoint intervals after treatment initiation evaluate outcomes based on type of treatment complexity and drug changes and review specific populations such as



postpartum patients to understand efficacy of the program for those groups.

Monday May 06

### **Characterizing Prescription Patterns of Clozapine in a Multi-Institution Cohort of Patients with New-Onset Psychosis**

*Ethan Mondell; Deepak Sarpal M.D.; Melanie Bennett; Russell Margolis M.D.*

Background: Clozapine is the most effective treatment for schizophrenia and other psychotic disorders that do not respond to other antipsychotic medicine yet it accounts for only 5.5% of starts on antipsychotic medication. This likely stems from concern about side-effects and need for adherence to a complicated FDA REMS program. To address the lack of information about clozapine use in first-episode psychosis (FEP) this study aims to determine the prescribing patterns and associated patient outcomes of clozapine use in Connection Learning Health System (CLHS) a NIMH Early Psychosis Intervention Network (EPINET) program that consists of all FEP clinics in Pennsylvania and Maryland. Methods: CLHS enrolled 1484 patients who experienced onset of psychosis within the preceding year. Demographic clinical and quantitative measures were collected from patients at enrollment and every 6 months thereafter. Clinicians documented the medication patients were taking at each assessment. Of the 1484 patients enrolled 220 were excluded from analysis due to missing data. Chi-squared tests were used to compare three groups: 1) patients noted to be taking clozapine during the study 2) patients on other antipsychotics but not clozapine and 3) patients not on an antipsychotic at any time. Results: 81 patients (6.41%) took clozapine during the study 1070 (84.65%) were prescribed other

antipsychotics and 113 (8.94%) were not prescribed any antipsychotics. The groups did not vary by age education or gender. Among clinics contributing at least 20 patients to the cohort clozapine use ranged from 1% to 20%. Clozapine use also significantly varied by specific diagnosis. Patients in the clozapine group were less likely to identify as Black compared to those prescribed antipsychotics other than clozapine and those never prescribed antipsychotics (26.6% vs. 47.8% vs. 38.83% respectively  $p < 0.0001$ ). Additionally in a pairwise comparison patients in the clozapine group were more likely to have private insurance than patients prescribed other antipsychotics (47.9% vs. 35.9%  $p = 0.0443$ ). Conclusions: These results indicate there may be racial and economic disparities in the prescription of clozapine and marked variation in clozapine prescription among clinics of the CLHS. Our findings align with previous observations made in non-first-episode psychosis patient populations; but to our knowledge this study is the first to demonstrate racial and economic disparities in clozapine prescription among first-episode psychosis patients. The etiology of this disparity is uncertain and warrants further research. Future analyses will investigate factors that may contribute such disparities and to the association of clozapine with patient outcomes. This study was funded by NIMH MH120550 ABCD Charitable Trust and The Abramson Fund. The investigators of CLHS PI Dr. Melanie Bennett contributed to this abstract.

Monday May 06

### **Clozapine-Induced Acute Respiratory Distress Syndrome: A Case Study and In-Depth Review of Pharmacogenetic and Inflammatory Interactions**

*Zain Iftikhar; Achyut Sompura M.D.; Nikita Mehdiratta MBBS; Clayton Morris*

Background: A bidirectional link between clozapine and inflammation coupled with pharmacogenetic nuances accounts for clozapine's interpersonal variability especially among poor metabolizers. Clozapine-induced adverse effects include myocarditis polyserositis and pneumonia. While these conditions can potentially result in acute respiratory distress syndrome (ARDS) clozapine-induced ARDS in the absence of contributing factors has not heretofore been documented. Aim: To elucidate the interconnection among clozapine inflammation and ARDS in treatment-resistant schizophrenia (TRS). Methods: A case report and literature review using PubMed focused on case reports and reviews using keywords clozapine "ARDS" and "inflammation."—case report: A 24-year-old Asian female with acute schizophrenia episode and bilateral otitis media presented. Despite the resolution of the ear infection a failed antipsychotic response led to TRS. Rapid clozapine titration resulted in somnolence sialorrhea and symptoms of septic shock and neuroleptic malignant syndrome (NMS). Antipsychotics were withheld while treatments for suspected NMS and infection were administered later ruled out. Labs reported elevated CK ESR and clozapine serum levels while ANC levels were normal. Imaging confirmed ARDS. Results: This poster synthesizes data from 40 articles highlighting three main themes—first pharmacokinetic factors such as CYP450 2D6 inhibitors impact clozapine levels necessitating personalized dosing. Elevated concentration-to-dose ratios are observed in Asians reflecting a broader inflammatory impact with increased CRP levels alongside a transient spike in IL-1B and TNF-alpha during clozapine induction. Second clozapine

toxicity may arise in stable schizophrenia patients with minor infections and cause modest CRP elevation indicating early signs of clozapine-related adverse events. Third clozapine toxicity presents with a varied symptomology mimicking NMS. Our patient exhibited these symptoms aligning with others' observations. Elevated CK associated with clozapine use and NMS further supports diagnostic uncertainty. In cases of ambiguity addressing the most severe condition while considering clozapine discontinuation until clarity is achieved is recommended. Discussion: CYP450 2D6 mutation leads to heightened clozapine levels potentially underscoring this disease process an aspect absent in patients without the mutation. A plausible connection exists between ARDS and clozapine's inflammatory reactions either independently or in tandem with neuroleptic malignant syndrome concurrent antipsychotics or a hypersensitivity reaction involving generalized neutrophil activation including the lung leading to cytokine release—a factor also implicated in ARDS pathogenesis. Conclusion: Baseline and regular monitoring of pro-inflammatory biomarkers is advised to optimize clozapine's safety addressing broader inflammatory processes beyond myocarditis."

Monday May 06

### **Continuous Dopamine D2 Receptor Blockade and the Outcome of First-Episode Schizophrenia**

*Jari Tiihonen; Antti Tanskanen; Heidi Taipale*

Background: Concerning the neurobiology of schizophrenia it is not known how big proportion of patients with first-episode schizophrenia relapse despite of continuous dopamine 2 (D2) receptor blockade and if the breakthrough psychosis is attributable to

development of dopamine supersensitivity during long-term use of D2-blocking antipsychotics. Methods: All persons with first-episode schizophrenia aged  $\geq 45$  years were identified from Finnish nationwide register of inpatient care during years 1996-2014. During the first 30 days after the first hospitalization patients were categorized as LAI users versus non-LAI users (using oral antipsychotic or not using any antipsychotic). Outcome was a severe relapse defined as a readmission to hospital due to psychosis. During the 5-year follow-up those categorized as LAI users were censored if they discontinued LAI. Results: Of the entire cohort of 5367 patients 3058 (57%) had a relapse leading to hospitalization. Among those patients who were not re-admitted to hospital during the first 30 days of follow-up (N=4788) 305 initiated LAI use and 4483 did not. Among continuous LAI users 21.6% relapsed (95% CI 17.1-26.7%; N=66) and their cumulative probability of relapse in Kaplan-Meier analysis was 35.9% (95% CI 28.0%-45.1%). Relapse incidence per person years among LAI users decreased from 0.26 (95% CI 0.19-0.35) during the first year to 0.05 (95% CI 0.01-0.17) during the fifth year corresponding to incidence rate ratio 0.18 (95% CI 0.02-0.68 p=0.0026). Discussion: The relapse risk decreases as function of assured cumulative D2 blockade during the first 5 years indicating that cumulative continuous exposure to dopamine D2 receptor antagonists is associated with decreased rather than increased risk of breakthrough psychosis. More than 20% of patients with first-episode schizophrenia will relapse despite of continuous D2-blockade apparently because of the neurobiological heterogeneity in the pathophysiology of the illness since the results show that development of dopamine supersensitivity

does not have any significant role concerning the risk of relapse.

Monday May 06

### **COVID-19 IMPACT ON ADMISSIONS CHARACTERISTICS IN THE BRIEF PSYCHIATRIC HOSPITALIZATION UNIT OF EL BIERZO HOSPITAL AN OBSERVATIONAL STUDY**

*Zaida Gutierrez Hervás; Elena Martin Gil; Ruth Landera; Yolanda Zapico-Merayo; EVA MARIA ROMERO*

Background: Suicide behaviour has significantly increased after COVID-19 including among those subjects who need an admission in a psychiatry unit. The main objective of this study was to analyse the incidence and characteristics of admissions to our Short-term Psychiatry Hospitalización (SPH) Unit in Spain. Methods: A descriptive observational and cross-sectional study was carried out selecting patients who required admissions to SPH in three time periods: pre-pandemic in 2019; pandemic in 2020 and 2021 and post-pandemic in 2022.  $\chi^2$  and ANOVA were used as statistics. Results: 1322 subjects required admission 506% men mean ( $\bar{x}$ ) age: 48.29 $\pm$ 17.12 years. There was an increase on the admissions during the study from 284 Prepandemic (21.6/10000 hab) to 399 Postpandemic (31.27) ( $\chi^2$ :26157; P = 0.0002). The  $\bar{x}$  length of stay was 9.03 $\pm$ 7.36 days. 31.8% of admissions were compulsory and 12.5% were scheduled. 44.5% had a history of previous admissions and 38.4% suicide behavior. 52.6% have consumed other substances at admission. The most frequent diagnosis at discharge was psychosis (37.1%) followed by personality disorders (22.9%) bipolar disorder (9.5%). 85.5% of patients were prescribed benzodiazepines 77.5% antipsychotics 52.6%

antidepressants 45.9% mood stabilizers and 22.7% long-acting injectable antipsychotics. Almost 61.2% had good adherence to Mental Health (MH) services. Mean age decreased across the periods (51.44 years in 2019 vs 47.26 in 2022) Similarly there was a progressive decrease in length stay from 10.22 days in 2019 to 7.74 in 2022 ( $F: 10.468$ ;  $p=0.001$ ). The greatest substance use was on 2019 (25.5%  $\chi^2: 13.581$ ;  $p<0.001$ ). The treated incidence of suicide behavior in the hospital unit increased from 2019 (7.52/10000 inhabitants) to 2022 (12.77/10000 inhabitants) ( $\chi^2: 19.988$   $p=0.003$ ). The percentage of admissions with suicidal behaviors due to different diagnoses changed over the years. There was a decrease in psychosis depression and bipolar disorder while those associated with personality disorder increased (11% in 2019 vs 27% in 2022). Higher adherence to MH services was found in 2019 (73.6%). The 2020-21 period had the lowest rate of good adherence (54%) ( $\chi^2=59.274$ ;  $p<0.001$ ). Psychosis admissions decreased (40.5% 2019 vs 33.6% 2022) as well as those with a bipolar disorder or depression diagnosis. By contrary personality disorder increased from 17.6% in 2019 to 32.3% in 2022 ( $\chi^2=41.254$ ;  $p<0.001$ ). The use of antidepressants decreased during 2020-21 ( $\chi^2=7.885$ ;  $p=0.019$ ) and benzodiazepines: 91.5% in 2019 vs 85.15% in 2022 ( $\chi^2=10.231$ ;  $p=0.006$ ).  
Conclusions: Number of admissions progressively increased especially post-pandemic at the expense of patients with a personality disorder which show the highest proportion of admissions exhibiting suicidal behavior.

Monday May 06

**Delivering online cognitive behavioural therapy (e-CBT) to address mental health**

## **symptoms in correctional officers a mixed-methods study**

*Gilmar Gutierrez M.D.; Christina Holmes; Callum Stephenson; Nazanin Alavi M.D.*

Background: Despite the higher risk of developing mental health symptoms correctional workers often present lower help-seeking behaviors compared to the general population due to stigma and demanding work schedules. Online therapies like online cognitive behavioral therapy (e-CBT) can help address these barriers by providing more accessible convenient and private care services. However despite the growing interest in the development of e-CBT programs e-CBT options specific to the unique context of correctional workers remain understudied. Therefore addressing this gap this mixed methods study developed and studied three e-CBT programs specific to correctional workers experiencing post-traumatic stress disorder (PTSD) depression or anxiety symptoms. Methods: This mixed methods study randomized correctional workers ( $n=63$ ) to a treatment group ( $n=34$ ) where they received one of three 12-week diagnosis-specific e-CBT programs for PTSD depression or anxiety symptoms or the treatment as usual (TAU) group ( $n=29$ ). The TAU group consisted of regular physician or clinician visits conducted outside of the scope of this study. Then after 12 weeks interested participants in the TAU group could crossover to the treatment group. Both groups completed psychiatric questionnaires at baseline mid-point (6 weeks) and endpoint (12 weeks). Participant who accessed an e-CBT program received a post-participation survey and were invited to participate in a semi-structured interview to gather qualitative information. The quantitative data was analyzed using descriptive statistics significance at  $p<0.05$  and effect size using

Cohen D (d) analysis the qualitative data was assessed using NVivo with two independent reviewers. Results: The correctional workers in the treatment group reported a significant reduction in their depression (d=0.29) anxiety (d=0.69) stress (d=0.53) and PTSD symptoms (d=0.68) compared to their baseline scores. The TAU group reported a significant reduction in their PTSD symptoms (d=0.31) compared to their baseline scores. There was no significant difference in the endpoint scores of the treatment group compared to the TAU group. 13 correctional workers completed the post-participation survey and 10 participated in the semi-structured interview. The following common themes were identified: study design therapy platform therapy experience therapy benefits unhelpful elements and work-related factors. Discussion and Conclusion: The outcomes of this research showed that e-CBT is effective at improving multiple mental health symptoms experienced by correctional workers compared to baseline scores. The qualitative analysis emphasized the therapy elements that were effective and some unhelpful elements that will require further development. Therefore these are promising results which support the development of accessibility therapies such as e-CBT targeted to correctional workers.

Monday May 06

### **Developing a Geriatric Psychiatry Workforce for Underserved Areas in New York State; A Survey of Geriatric Psychiatry Fellowship Graduates**

*Katharine Brewster M.D.; Margaret Hamilton MD; Mark Nathanson M.D.*

Background: Despite an aging population<sup>1</sup> there is a dearth of geriatric psychiatrists nationally and in New York (NY) State

particularly in underserved areas.<sup>2</sup> The goals of the Statewide Columbia Geriatric Psychiatry Fellowship are to 1) develop geriatric psychiatrists who are national leaders; (2) disseminate expertise in geriatric psychiatry to underserved urban/rural areas; and (3) foster the development of a geriatric mental health workforce in NY State.<sup>3</sup> The program provides educational experiences in a variety of academic and federally designated medically underserved urban and rural settings from its academic base at the Columbia University Irving Medical Center to hospital centers in underserved areas including Greater Binghamton Health Center and Rockland Psychiatric Center. All fellows in both the NYC and Binghamton tracks rotate at a wide range of clinical sites in NYC Upstate NY and Rockland County. However it is currently unknown whether completion of the fellowship has contributed to a geriatric mental health workforce in underserved areas in NY State. This survey aims to understand whether the diversity of training opportunities in the program has influenced the work settings of its graduates. Methods: Email addresses of 27 graduates of the Columbia Geriatric Psychiatry Fellowship since 2001 were identified. A 17-question confidential survey asked the graduates questions about their current work settings and roles geography and patient population. Results: Among the 27 graduates 25 (92.6%) participants completed the survey of whom 9 completed the NYC track and 16 completed the Upstate track. Of the 16/25 (64.0%) graduates currently working in NY State 57.1% graduates work outside of NYC 42.9% work in Upstate NY and 53.9% work for the NY State Office of Mental Health. Currently 5 work in community practice 10 work in academic practice 10 work in state or federal systems and only 3 graduates work in private practice. Most graduates (14/21) work in a



federally qualified health center or public sector program. On average 60.5% of the graduates' practice is dedicated to geriatric psychiatry. Of the graduates three are training directors of ACGME-accredited programs one serves as a service chief two are medical directors and one is a psychiatry clerkship site director. 66.67% report teaching geriatric psychiatry to a broad range of learners including psychiatry residents/fellows medical students general psychiatrists nurse practitioners social/community workers and nursing home staff. Conclusions: Most graduates of the Statewide Columbia Geriatric Psychiatry Fellowship work with an underserved population in NY State and teach geriatric psychiatry to a wide range of learners. We hypothesize that the fellowship's unique collaboration between an urban academic medical center and rural state-run hospitals has helped facilitate leadership opportunities for geriatric psychiatrists in NY State.

Monday May 06

### **EEG dynamic causal modeling of electroconvulsive therapy effects on chronic schizophrenia with clozapine medication**

*Tak Youn M.D.; Hae-Jeong Park*

**Objectives** We explored long-term the therapeutic effects of electroconvulsive therapy(ECT) and clozapine at brain circuits and channels in hierarchical levels of an N-methyl-D-aspartate canonical microcircuit model (CMM-NMDA) at the default mode networks using dynamic causal modeling (DCM) of longitudinal EEG in clozapine-treated patients with schizophrenia.

**Methods** We focus on auditory verbal hallucinations(AVHs). Two brain circuits that are related to AVHs DMN and AVHs network

are selected to analyze in the present work. Changes of two brain circuits AHN and DMN by ECT and clozapine treatments were estimated. Twenty-two patients with ECT treatment schizophrenia and Twenty-two patients with non-ECT treatment schizophrenia were recruited. Both groups took an average of 241mg of clozapine. Patients treated with ECT received an average of 47 treatments. EEG was also performed from a minimum of 2 times to a maximum of 11 times and PANSS was used as an improvement percentage to measure the treatment outcome. Results Enhanced AMPA connections to the frontal area were related to improved PANSS ratings after ECT whereas clozapine increased NMDA connections to the frontal area. Conclusions we have applied DCM with NMDA conductance model for EEG data obtained from schizophrenia patients in pre- and post- treatments of ECT and clozapine and extracted that different changes in channel proteins intrinsic- and extrinsic-connectivity by the treatments. This might be a key to understand mechanisms of treatments of schizophrenia and finding novel treatment methods for schizophrenia. The current study emphasizes the importance of computational modeling in filling the gap between the micro- or meso-scope level activity to the macroscopic brain system and thus to human behavior.

Monday May 06

### **Ending the Drought in the Bush: The development of Rural Psychiatry Training Pathways in Australia and New Zealand**

*Mathew Coleman MBBS BA(Psych) MHSM FRANZCP*

Background: There is a critical need for high quality psychiatric care in rural and remote

Australia with a third of the population residing in these locations yet less than 15% of psychiatrists work in these locations. Health workforce distribution is a global problem with non-metropolitan locations facing a dire health and in particular psychiatric workforce. Mental health prevalence rates are the same across metropolitan rural and remote areas yet populations in the later face higher morbidity and mortality through suicide with less than a third of the specialist psychiatric workforce available to service these high needs areas. Reform of psychiatry training pathways in Australia and New Zealand have enabled the development of the first dedicated rural psychiatry training pathway in Western Australia (WA) with a catchment of over 2.5 million km<sup>2</sup>. The establishment of an end-to-end training pipeline has enabled aspiring psychiatrists (psychiatry residents) to live work and train in rural and remote communities in WA. This study will identify the early outcomes of the new program and identify key enablers for change in rural and remote psychiatry training.

**Methods:** The Rural Psychiatry Training WA (RPTWA) program is Australia's first dedicated rural psychiatry training program and the first new RANZCP training program in over 20 years. Training related data drawn from the preceding 3 years prior to the commencement of the program will be compared with available data from the first 18 months of operation of the program with trajectories developed to model future workforce development and output from the program. Qualitative analysis of trainee and supervisor surveys are used to indicate what potential factors provide the best outcome for academic advancement pastoral care and support for psychiatry trainees (residents) across this vast training program.

**Findings:**

Within 18 months of commencement trainee numbers have expanded 400% (from 6 to 24) with minimum resourcing from the state health department. Federal funding previously available but unable to be utilised has provided the resourcing to expand the program. Place based autonomy and engagement of existing rural psychiatrists as supervisors has ensured program stability and growth. Early indications from both trainees and supervisors suggests that the training program is of high quality if not superior in some areas (eg coordination pastoral care exposure to breadth of clinical material) to metropolitan training programs. The RPTWA in the last round of applications for new trainees had over 60 applications indicating strong early interest from pre-vocational doctors.

**Conclusion:** Rural placed based psychiatry training may not only be of high quality and in high demand when readily available but may provide a lasting solution to decades of maldistribution of the psychiatry workforce.

**Monday May 06**

### **Evaluating Barriers to Psychiatric Care in a Student-Run Free Clinic**

*Joy Li; Kimberly Grayson M.D.*

**Background:** St. Vincent's Clinic (STV) is a student-run free clinic that provides primary and specialty healthcare services to the underserved and unhoused population of Galveston County Texas. Psychiatry nights which occur twice a month traditionally have a consistently high no-show rate and patients wait on average two to four months to schedule a psychiatric appointment delaying access to care. **Aims:** To determine the barriers associated with missed psychiatric appointments to guide future

implementations in our clinic with the ultimate goal of decreasing the no-show rate. Methods: Patients who missed their psychiatric appointments on the dates of 9/14/23 9/28/23 10/12/23 10/26/23 and 11/09/23 were called. With the use of a standard script patients were asked the following: reasons why they did not attend their previous psychiatry appointment other barriers to attending their missed appointment and suggestions for improving patient attendance. In addition during psychiatry nights patients completed physical surveys. The surveys were distributed during the check-in process and patients were able to voluntarily fill out the surveys in their room while they waited to be seen. Surveys asked for general demographic information the number of scheduled and missed psychiatric appointments in the past year the presence of reminders and patient perception of their effectiveness and suggestions for improving attendance to appointments. Additionally the survey solicited patient perception of potential barriers impacting their attendance in a Likert scale 1-5 with 1 being not a barrier and 5 being a major barrier. Results: The survey found that 85.6% of patients consistently attended their appointments. The highest-rated barrier was childcare/family responsibilities with transportation barriers and forgetting the appointment also noted as obstacles to attendance. Patients reported that reminders especially text messages were highly effective in helping them attend their appointments. Phone call data highlighted lack of transportation (40%) work conflicts (20%) and unawareness of the appointment (20%) as primary reasons for missed appointments. The most common suggestion for improvement was to provide transportation services and improve reminder systems. Discussion: Childcare/family

responsibilities transportation difficulties and unawareness of appointments were indicated as key factors in missed psychiatric appointments. Addressing these challenges through improved transportation services and effective reminder systems can significantly reduce no-shows. Tailoring these interventions to the clinic's unique patient needs focusing on reliable communication and support for familial and transport-related obstacles is crucial for improving access to psychiatric care. This targeted strategy can also serve as a model for other clinics to identify and mitigate similar barriers.

Monday May 06

### **How should we measure sleep and circadian rhythm in adolescents and young adults with psychosis spectrum symptoms?**

*Jerome Taylor M.D.*

Introduction: Sleep and circadian rhythms are potentially modifiable biological targets that are disrupted in adolescents and young adults with subthreshold and threshold psychosis. Yet rigorous studies investigating the correspondence between different methods of assessing sleep and circadian rhythm in youth with psychosis spectrum symptoms are lacking. Methods: In a preliminary study to determine correlations between different methods of assessment we measured sleep and the circadian rhythm for 7 days in youth ages 16-30 with psychosis spectrum symptoms within the past year or a threshold psychotic disorder diagnosis. Additionally enrollment required at least mild sleep disturbances defined as a Structured Interview for Psychosis-Risk Syndromes (SIPS) item G1 (SIPSG1)  $\geq 1$ . Sleep and circadian rhythm were measured using 4 modalities: 1. wrist actigraphy (also known as

accelerometry) 2. a clinician-rated sleep scale (SIPSG1) 3. self-reported sleep scales on the Patient-Reported Outcomes Measurement Information System (PROMIS) and the Pittsburgh Sleep Quality Index (PSQI)] and 4. sleep diaries. Results: The mean age of the study sample was 21.8 (Standard Deviation (SD) = 4.41) years old and 57% (n = 12) of participants were female. Self-reported race/ethnicities of the sample were: 38% (n = 8) non-Hispanic White 48% (n = 10) non-Hispanic Black 10% (n = 2) more than one race and 5% (n = 1) Asian ancestry. The mean 18-item Brief Psychiatric Rating Scale (BPRS18) score for the past week was 30.6 (SD = 15.53) and the mean Structured Interview for Psychosis Risk Syndromes positive symptoms (P1-P5) sum score was 7.43 (SD = 7.24). 29% (n = 6) had a diagnosed threshold psychotic disorder and 29% (n = 6) were prescribed antipsychotic medications. Clinician-rated sleep disturbances on SIPSG1 had a mean of 2.71 (SD=1.45). Clinician-rated sleep disturbances SIPSG1 was significantly correlated with self-reported PROMIS sleep related impairment ( $r = 0.66$   $p = 0.03$ ) and disturbances ( $r = 0.79$   $p < 0.001$ ) and global sleep problems on the PSQI ( $r = 0.51$   $p = 0.03$ ). However self-reported healthy sleep habits (PROMIS sleep practices) were not associated with PROMIS self-reported sleep disturbances or impairments or global sleep problems on PSQI. Actigraphy measures were not associated with self-reported clinician-rated or sleep diary measures. There was a moderate positive correlation between the 18 item Brief Psychiatric Rating Scale and the PROMIS sleep related impairment and the Pittsburgh sleep quality index ( $r = 0.60$   $p < .01$ ;  $r = 0.53$   $p < .05$ ) and between the PROMIS sleep related impairment scale and the Structured Interview for Psychosis Risks Syndromes ( $r = 0.47$   $p < .05$ ). Discussion: Measuring

sleep and circadian rhythm in adolescents and young adults with psychosis spectrum symptoms is feasible yet there are inconsistencies among the 4 modalities of measurement. Study was supported by the NIH and Brain and Behavior Research Foundation.

Monday May 06

### **Integrating the Voice of Lived Experience to Improve Caring Contacts: Using Implementation Science to Reduce Suicide-Related Outcomes**

*Rosalie Steinberg MD MSc FRCPC; Jasmine Amini; Mark Sinyor MD MSc FRCPC; Ayal Schaffer M.D.; Rachel Mitchell*

Background: Suicide risk is substantially elevated following discharge from a psychiatric hospitalization. Caring Contacts (CC) brief communications featuring messages of hope and resources have been shown to improve mental health symptoms following discharge. This three-phased quality improvement project grounded in the Consolidated Framework for Implementation Research (CFIR) revised an existing CC intervention. We incorporated patient and community feedback into CC messages and assessed the impact of messages on patient outcomes 7 days post-discharge. Method: We contextualized results within CFIR's framework to enhance implementation. Phase One focus groups featured psychiatric inpatients and community members with lived experience of mental illness who provided feedback on the existing CC intervention. Focus group transcripts were thematically analyzed. Messages were further modified during Phase Two based on additional feedback from a Psychiatry Patient Family Council. In Phase Three revised CCs were piloted with psychiatric inpatients and

were sent by email on days 2 and 7 post-discharge. Participants completed demographic and health history measures at discharge and feedback and acceptability of questionnaires on day 7. The Hopkins Symptom Checklist-25 (HSCL-25) entrapment scale and Beck Suicidal Ideation scale were completed on both days. Differences on continuous variables between pre- and post-discharge were evaluated as percent changes; all other results are descriptive. Results were shared with the care team to help implement recommended CC improvements. Results: Focus group (inpatient n=2; community n=13) data indicated that participants felt empowered contributing to the CC intervention. Participants preferred fewer shorter more visually appealing messages that included access to recovery-based resources and were delivered soon after discharge. In phase 3 27 participants (7M 18F 3 non-binary; Mage=36.9 years SD =15.7) completed baseline questionnaires and 16 also completed day-7 measures (5M 11F; Mage=37.3 years SD=10.2). Between baseline and day-7 post-discharge there were reductions in mean scale scores for the HSCL-25 (-6.44%; 29.1 vs. 27.8) and entrapment scale (9%; 23.2 vs. 21.4). The majority of participants agreed that CC messages encouraged them to seek support (68.8%) and helped them feel hopeful about recovery (75.1%) Conclusions: Results demonstrate the acceptability of improvements to CC messages indicating that CCs promoted help-seeking behaviours. This study addressed Patient Needs and Resources by integrating the voice of lived experience reflective of the CFIR domain of Outer Setting. Future efforts to enhance Caring Contact messages can be considered within an implementation science framework

to promote uptake of patient input and improve intervention acceptability.

Monday May 06

### **Just for Me! Black Cultural Pride Boxes Aiding Parents in the Racial Socialization Practices of their Black Preschoolers**

*Lauren Edwards; Erica Coates; Thomas Mellman M.D.*

Exposure to racism is an important risk-factor for mental health disorders in Black children. Research shows that instilling racial identity and cultural pride in children while preparing them to encounter racial bias (i.e. racial socialization) is associated with cognitive behavioral and academic benefits for young Black children. Identifying effective approaches for aiding parents who are primarily responsible for instilling racial identity and cultural pride within young Black children is needed. Our goal for Just for Me!: Black Cultural Pride Boxes for Black Preschoolers was to determine the acceptance and utility of a community-based box featuring Black-centered interactive play and educational items from Black creatives. Just for Me! instilled racial identity and cultural pride by increasing Black representation providing positive affirmations and teaching Black history and culture. Fifteen families were recruited from an early childhood education center in Washington D.C. We successfully designed and provided individualized age-appropriate Just for Me! boxes for 15 preschoolers: 9 females mean age 3.7 years (range 2-5 years). On average each preschooler's box contained ~20 educational and play items including books 4x6 pieces of art coloring pencils and crayons coloring books and posters dolls puzzles and interactive activities. Boxes were accompanied by a detailed description of



each item via a video describing the contents. Families were given 2 months to interact with the boxes prior to us conducting an individual interview to assess the utility of the boxes for racial socialization practices. Fourteen of the 15 mothers completed a twenty minute semi-structured interview via Zoom. We organized the contents of the boxes broadly into 3 main categories of 1) books; 2) art (including artwork coloring supplies & stickers); and 3) activities to measure across boxes. For each category we assessed a) the level of engagement b) how much the child liked the items as rated by parent; c) the current utility and d) future usefulness in promoting racial identity and culture using a 5 point Likert scale. Mothers reported using items within each category with art items having the highest reported levels of engagement acceptability and likelihood for future use of similar items as a resource to build children's cultural pride followed by books and then activities. Parents rated art and activities as equally useful in helping children develop cultural pride followed by books. Overall art coloring supplies and stickers had the highest ratings of engagement acceptability and both current and future utility. Contextual feedback demonstrated that activities may require increased levels of customization or time for higher engagement and acceptability. Implications and recommendations for providing cultural pride aids for families with young Black children will be forthcoming.

Monday May 06

### **Long-term Safety and Efficacy of Olanzapine/Samidorphan: Results of a 4-Year Open-Label Study**

*Rene Kahn M.D. Ph.D.; Jacob Ballon M.D.; David McDonnell; Christoph Correll M.D.; Martin Dunbar*

**BACKGROUND:** The olanzapine/samidorphan (OLZ/SAM) combination is approved for the treatment of patients (pts) with schizophrenia (SZ) or bipolar I disorder (BD-I) and provides the established antipsychotic efficacy of olanzapine while mitigating olanzapine-associated weight gain. This study evaluated the long-term safety tolerability and durability of effect of OLZ/SAM including characterization of its weight and metabolic profiles over 4 years of treatment.

**METHODS:** This phase 3 48-month (4-year) multicenter open-label extension study (NCT03201757) assessed the long-term safety and efficacy of OLZ/SAM. Eligible pts enrolled within 7 days of completing 1 of 3 phase 3 clinical trials investigating OLZ/SAM including (1) the 52-week open-label studies NCT02873208 and NCT02669758 which were rollover extensions of phase 3 pivotal randomized controlled trials in adults with SZ and (2) the 12-week randomized controlled trial NCT03187769 which compared OLZ/SAM to olanzapine in young adults with recent-onset SZ schizophreniform disorder or BD-I. In the long-term studies pts continued their daily dose of OLZ/SAM (5–20/10 mg) for up to an additional 4 years with dose adjustments determined by the investigator. Safety assessments included the incidence of adverse events (AEs) and changes from baseline (CFB) in body weight and waist circumference. Changes in lipid (high-density lipoprotein low-density lipoprotein total cholesterol triglycerides) and glycemic (glucose and glycosylated hemoglobin) parameters were also evaluated.

Antipsychotic efficacy was assessed with the Clinical Global Impressions–Severity (CGI-S) scale. **RESULTS:** Of 524 pts enrolled in the study 523 received ≥1 dose of OLZ/SAM and 188 (35.9%) completed the 4-year treatment period (mean [SD] duration of exposure=652.4 [454.8] days). Pts were

mostly male (61.6%) and White (72.7%) with a mean (SD) age of 35.1 (12.2) years. Overall 60.0% of pts reported an AE; the most common were weight increase (9.8%) headache (7.1%) anxiety (6.1%) insomnia (5.9%) somnolence (5.9%) nausea (5.7%) and weight decrease (5.7%). After 4 years of treatment the mean (SD) change in body weight was 1.47 (8.0) kg. The observed mean (SD) CFB in waist circumference was 0.61 (8.2) cm. Lipid and glyceimic parameters were generally stable over the treatment period. Disease symptoms were stable over the course of 4 years with a mean (SD) CGI-S CFB of  $\pm 0.28$  (0.7) points. **CONCLUSION:** In this 4-year open-label extension study treatment with OLZ/SAM resulted in a safety profile consistent with previous short-term studies and was associated with minimal changes in body weight waist circumference and lipid and glyceimic parameters. Similarly OLZ/SAM maintained symptom control during long-term treatment. Based on these results OLZ/SAM maintained long-term antipsychotic efficacy while mitigating the weight gain and metabolic dysfunction associated with olanzapine. This study was funded by Alkermes Inc.

Monday May 06

### **Medical psychiatric and sociodemographic predictors of clozapine initiation at an academic medical center**

*Kathleen Shangraw M.D.; Christian Schmutz M.D.; Brent Kious M.D.; Ph.D.*

**Objective:** The current study aimed to identify factors affecting clozapine prescribing patterns among patients with treatment-resistant schizophrenia and schizoaffective disorder at an academic medical center.

**Methods:** This retrospective mixed-method study examined demographic socioeconomic

medical and psychiatric characteristics to determine predictors of clozapine initiation. The study population included patients with a diagnosis of schizophrenia or schizoaffective disorder who were admitted to a University of Utah inpatient psychiatric facility (1/2014 - 3/2021) and had at least two prior antipsychotic trials. Patients who did and did not receive clozapine during the index hospitalization were compared in cohort and case-control study arms. **Results:** Twelve percent (59/477) of the cohort received clozapine during the index admission. Among the cohort (n=477) Black patients were significantly more likely to receive clozapine than White and Hispanic patients ( $\chi^2=6.95$  p=0.0084). In the case-control analysis patients with a greater number of previous psychiatric admissions (OR 1.14 95% CI 0.98-1.32 p=0.079) and antipsychotic trials (OR 1.40 95% CI 1.00-1.96 p=0.038) had greater odds of receiving clozapine. Homelessness was identified as a predictor against clozapine use (OR 2.77 95% CI 1.24-6.19 p=0.014). **Conclusion:** This is the first study to identify homelessness as a predictor against clozapine use which raises important clinical and ethical considerations. Our findings also add to the literature on clozapine prescribing discrepancies among ethnic-minority patients. Overall clozapine remains underutilized as the gold-standard treatment for treatment-resistant schizophrenia-spectrum disorders reinforcing a need to improve guideline- and evidence-based prescribing.

Monday May 06

### **Missed Connections: Analyzing Factors Associated with No-Show Rates in a Student-Run Free Clinic**

*Lucy Fisher; Joy Li; Jonathan Pavia*

**Abstract** Background: St. Vincent's Clinic (STV) is a student-run free clinic that provides care to Galveston's underserved population. STV provides services in primary and specialty care including psychiatric services. Psychiatry nights traditionally have a high no-show rate and many patients are unable to be seen promptly with an average wait time of one to four months. Aims: To determine factors associated with missed appointments to guide future implementations in our clinic with the ultimate goal of decreasing the no-show rate. Methods: Data was extracted and de-identified from STV's electronic medical records and the following parameters from psychiatry appointments between 3/25/21 and 11/9/23 were analyzed: appointment date/time appointment notes appointment status (complete no-show canceled) language and patient status (new or established). Appointments were excluded from analysis if the notes were left blank if the notes did not include a diagnosis or if the appointment was canceled. Appointment notes were used to determine the diagnosis(es) relevant to a given appointment. No-show rates per diagnosis were determined by identifying each instance of a diagnosis in the notes and then recording the number of no-show appointments per each diagnosis. No-show rates per number of diagnoses were determined by recording the number of diagnoses per appointment as listed in the notes and recording number of no-show appointments in each group. No-show rates per language were determined by identifying the number of appointments in English or Spanish and the corresponding number of no show appointments. Chi-Square tests were performed for no-show rates per diagnoses per number of appointments and per language. Residual analysis was performed on no-show rates per diagnosis. Results: The average no-show

rate by diagnosis was 35.29% by number of diagnoses was 35.32% and by language was 34.73%. Testing with chi-square tests revealed that the relationship between no-show rates by language or number of diagnoses were not statistically significant but the relationship of no-show rates by diagnosis was. Residual analysis showed that the largest residuals occurred with the diagnosis of Post-traumatic stress disorder (PTSD) or bipolar. Conclusion: While the causes of high no-show rates at STV psychiatry nights are multifactorial a patient's given diagnoses play a role in their no-show risk. This information will allow STV to focus outreach on patients with diagnoses that increase their no-show risk and suggests the need for ongoing monitoring to assess current outreach. This also presents an opportunity for other psychiatry clinics to perform similar analysis to assess patient diagnosis as a possible risk for no-showing with the aim of improving patient care and clinic flow.

Monday May 06

### **Outcomes and economic value of recreation for adults with chronic moderate-to-severe acquired brain injury**

*Mayada Saadoun M.D. M.P.H. M.Sc.*

Introduction and objectives: Acquired Brain Injury is associated with a significant physical neurological and psychosocial impairments explaining its high economic burden. Although associated with improving biopsychosocial status access to multidisciplinary rehabilitation services remains limited. Participation in meaningful activities is a major goal for people with chronic moderate-to-severe acquired brain injury (ABI). This study examined impact and economic value of participation in recreation and exercise program in particular.

**Methods:** This is an exploratory cross-sectional study with 36 adults in ABI-supported living group homes in eastern Massachusetts. Participants' demographics participation hours of diverse recreation activities costs of recreation programs and outcome measures (brain injury function and health-related quality of life) were collected in 2013-2015. Bivariate statistics ordinary least squares regression and economic analyses were performed to investigate the association between participation in recreation and outcome measures.

**Results:** Participation in the exercise program was significantly associated with better functional outcome. Twenty residents participated in exercise program in 2014 (average of 104 hours  $\pm$ 32 per year). Those who did not participate in exercise (n=16) showed a steeper deterioration in functional outcome during the study period. Exercise participation was associated with a 2.17-point lower (better) Mayo-Portland Adaptability Inventory-4 (MPAI-4) score ( $p=0.02$ ). Program cost was \$1500 per person per year; annual spending of \$690 on exercise programming resulted in one unit of improvement in MPAI-4. The self-rated quality of life measure (EuroQol-5D-3L or EQ-5D) was not associated with the functional outcome (MPAI-4) observed by staff.

**Conclusions and Recommendations:** Participation in the exercise program was associated with a better functional outcome among the population with chronic ABI and is potentially cost-effective. Clinical providers should highly encourage people with chronic ABI to participate in exercise programs to improve their quality of life which could potentially reduce the biopsychosocial and economic burdens associated with ABI. Psychological barriers to participation in exercise such as depression insomnia fear and anxiety and stigma against ABI should be

addressed when present. Economic evaluation could potentially be strengthened by developing a crosswalk method to estimate equivalent rating items in EQ-5D corresponding with the existing MPAI-4 scores.

**Monday May 06**

### **Psychotherapy Usage by Medical Students: A Review of Barriers and Potential Outcomes**

*Caroline Doyle; Albert Dickan M.D.; Alyssa Burd; Syed Qadri*

**Background** It is no easy task to endure the pace rigor and responsibility of medical school. Prior studies have established that medical students experience higher rates of stress depression anxiety and burnout compared to the general population. However the most effective techniques to combat these alarming rates remain unclear. In this paper we sought to identify the benefits of psychotherapy for medical students experiencing stress-induced mood disorders including anxiety and depression. Psychotherapy (i.e. talk therapy) is a method of discussing one's life events in order to identify ways to improve their own beliefs thoughts and actions. Therapy can be targeted for certain mood disorders or psychopathology and has been shown to be very effective for many people. We sought to discuss and evaluate the potential successes of therapy in reducing stress anxiety and depression among medical students while also evaluating the barriers and issues that may diminish the utilization of therapy in this population. **Methods** A literature review regarding the relationship between medical students and therapy was conducted using the following sites: PubMed Google Scholar NIH and ASA Psych. There were no exclusion

criteria allowing inclusion of an array of articles including primary literature clinical trials and case-studies. Twenty-three articles and websites deemed to contain peer-reviewed evidence were carefully read and used as relevant citations. Results While overall current data is limited several studies showed improvement in medical student mental health after trials with therapy and/or therapy-learned techniques such as mindfulness. The primary barrier from pursuing therapy as a means of mental health support was stigma. This stigma was a result of the competitive and invasive nature of medical education with students fearing that seeking mental health help would make them perceived as weak by their peers and evaluators. Students were also found to attribute barriers such as accessibility busy schedules and financial cost to their hesitancy to try therapy. Conclusions While still relatively under-explored the preliminary outcomes of medical students participating in therapy is promising for improvement of stress-induced mood disorders. Medical school curricula must prioritize student wellness by dismantling barriers of stigma accessibility and negative self-perception in order to promote options such as therapy. We believe this research should be taken further by looking into patient outcomes after seeing providers who have previously gone to or are currently in therapy.

Monday May 06

### **Real-World Comparative Effectiveness of Antipsychotic Agents in a National Sample of Medicare Beneficiaries with Schizophrenia in the United States**

*Pengxiang Li; ZHI GENG; Carmela Benson; Charmi Patel; Jalpa Doshi*

Background: Although about half the individuals with schizophrenia receive coverage through Medicare little is known about the comparative effectiveness of antipsychotic treatments in this population. This study aimed to compare effectiveness of long-acting injectables (LAIs) and daily oral antipsychotics (OAPs) across different agents and dosing intervals in a national sample of Medicare beneficiaries with schizophrenia. Methods: This observational study used 2006-2019 national fee-for-service Medicare claims to identify all beneficiaries with schizophrenia and ?1 antipsychotic fill between 01/01/2006 to 12/31/2019. The primary outcome was treatment failure a composite measure of psychiatric hospitalization antipsychotic discontinuation (continuous gap of ?60-days in antipsychotic use) suicide attempt or death. Within-individual Cox regressions were used in which each individual served as his or her own control to remove selection bias. In the first set of analyses we compared outcomes across all LAIs (haloperidol fluphenazine risperidone olanzapine aripiprazole paliperidone) and OAPs (first-generation antipsychotics haloperidol fluphenazine other; second-generation anti-psychotics risperidone olanzapine aripiprazole paliperidone quetiapine ziprasidone lurasidone clozapine other). In a second set of analyses we further separated the LAI agents with sufficient sample size by dosing interval: paliperidone (every month and 3-months) aripiprazole (every month and 6-8 weeks) and fluphenazine (every month and 6 weeks). Risperidone LAI (primarily consisting of every 2-week dosing interval) was used as the reference group. Results: The final sample included 152835 beneficiaries (mean age 53.5 years 54.0% male 61.5% White). Compared to risperidone LAI all OAPs except clozapine (HR 0.95; 95%CI 0.91-0.98) and all



LAI except paliperidone (HR 0.96; 95%CI 0.92-0.99) were associated with a significantly higher hazard (HRs 1.09 to 2.03) of treatment failure. In the analyses of selected LAI agents by dosing interval paliperidone LAI every month (HR 0.95; 95%CI 0.92-0.98) paliperidone every 3-months (HR 0.69; 95%CI 0.62-0.76) and fluphenazine every 6 weeks (HR 0.93; 95%CI 0.89-0.99) were associated with a lower hazard of treatment failure and fluphenazine LAI every month (HR 1.43; 95% CI 1.38-1.49) and aripiprazole LAI every month (HR 1.09; 95% CI 1.04-1.15) were associated with a higher hazard of failure compared to risperidone LAI. Aripiprazole LAI every 6 to 8 weeks was not statistically different than risperidone LAI. Conclusions: This real-world study found that all OAPs except clozapine had a higher risk of treatment failure compared to risperidone LAI. Only paliperidone LAI (every month and 3-months) and fluphenazine LAI (every 6 weeks only) had a lower risk of treatment failure compared to risperidone LAI. Paliperidone LAI every 3-months had the lowest risk of treatment failure in our study. This study was funded by Janssen.

Monday May 06

### **The Diagnostic Yield of Genetic Testing for Schizophrenia Spectrum Disorders: A Systematic-Review and Meta-Analysis.**

*Harman Brah; Nimrat Sran; Sanjana Sanghani; Aaron Besterman*

Background: Schizophrenia spectrum disorders are underpinned by a complex genetic architecture ranging from small effect single nucleotide polymorphisms to impactful rare copy number variants. Clinical genetic testing allows for the identification of high impact variants that can inform genetic

counseling in schizophrenia. However the exact measure of diagnostic yield—a critical metric for clinical decision-making—remains uncertain. This study aims to systematically review and meta-analyze the diagnostic yield of genetic testing in schizophrenia spectrum disorders to inform and refine genetic counseling and testing practices.

Methods: We conducted a systematic review adhering to a registered PROSPERO protocol (CRD42023409096) and the PRISMA guidelines. Our search across MEDLINE EMBASE and APA PsycINFO databases spanned from January 1 2008 to March 17 2023 initially identifying 6809 studies. The search strategy employed keywords such as schizophrenia schizoaffective disorder psychosis copy number variation whole genome sequencing and chromosomal microarray. Rigorous screening on Covidence by dual independent reviewers with third-party adjudication for discrepancies distilled 34 studies for final inclusion. Using a random-effects meta-analysis we computed the pooled diagnostic yield—defined as the proportion of individuals with a pathogenic or likely pathogenic variant on genetic testing. Publication bias was assessed via the Egger test and inter-study variability through the I<sup>2</sup> statistic.

Results: The meta-analysis revealed a substantial pooled effect size indicative of the diagnostic yield (estimate = -2.9438 95% CI = -3.3160 to -2.5717) with a pooled diagnostic yield of 5.12% (95% CI = 3.62% to 6.61%). In other words the meta-analysis identified a significant and meaningful difference in diagnostic yield due to genetic testing. However significant heterogeneity was observed ( $I^2 = 96.97\%$ ) signaling variability in diagnostic outcomes across studies. Publication bias was not detected (Egger's test p-value = 0.1104) lending robustness to our findings. Conclusion: Our findings affirm the

diagnostic utility of genetic testing in schizophrenia spectrum disorders with a significant pooled yield similar in magnitude to autism spectrum disorders which underscores its potential in genetic counseling and patient management. The high heterogeneity invites caution and suggests that the yield may be influenced by diverse study characteristics or population-specific factors. These insights advocate for personalized interpretation of genetic test results and underscore the need for standardized testing frameworks. Our study provides a pivotal reference for mental health clinicians and genetic counselors in the integration of genetic testing into the nuanced landscape of schizophrenia care.

Monday May 06

### **Training the Imposters: Identifying Novel Imposter Phenomenon Risk Factors in Medical Trainees**

*Sek Eun Lee; Naomi Ambalu; Stephanie Crane MD; Nathan Carroll D.O. M.B.A.*

Introduction: Imposter Phenomenon (IP) is characterized by persistent internalized fears of being exposed as a “fraud.” IP's negative self-perception can result in depression and anxiety impaired job performance job satisfaction and burnout (1)(2). Little is known however regarding how those internalized fears develop into IP. Therefore we performed a cross-sectional study to identify potential risk factors for the condition focusing on lived experiences and relationships. Objective: To identify psychological and social-dynamic traits correlating with IP. Methods: A cross-sectional survey was distributed to medical students and residents at Hackensack Meridian Health through program directors. Participants were asked to rank 28 psycho-social questions on a 5-point Likert Scale

(1=strongly disagree to 5=strongly agree) and the 20-item Clance IP (CIP) scale. Higher aggregate CIP Scores correlate with an increased chance of experiencing imposter feelings. Data were evaluated using linear models. Results: 129 individuals (66 medical students & 63 residents/fellows) responded to the survey invitation. 96.12% of the respondents reported ‘moderate’ or higher levels of IP feelings and nearly 25% of the responses were at the ‘intense’ level. The mean was 69.5 falling into the ‘frequent’ range. Feelings of: ‘Perception of parents or siblings as high achievers’ ‘academic difficulties’ ‘believing someone else deserved their opportunity’ ‘inability to appreciate accomplishments’ ‘perfectionism’ ‘critical self-assessment’ ‘sense of self-worth being tied to medicine’ and ‘distinguishing roles of physician vs. sense of self’ correlated with statistically significant higher CIP scores even after adjusting for demographics. Controlling for age training and gender resulted in novel observations. Women and medical students who strongly felt someone else deserved their spot and men who tied their self-worth to being a physician had higher CIP scores. ‘Academic difficulties’ were especially impactful to medical students. Both medical students and residents who could not ‘appreciate their accomplishments’ and were ‘critical of themselves’ had higher IP scores. Conclusion: Our results correlated with the hypothesis that IP is a relational affliction. Lived experiences some inherent to medical training result in internalized feelings of fraudulence due to an externalized locus of control & validation. This is a natural extension of existing research showing that IP is worsened by low self-esteem and institutional culture and improved by validation positive affirmation and reflection(3). The temporal relationship with

some factors is unclear. For instance is an individual unable to appreciate their accomplishments because they have IP or vice versa? A longitudinal prospective study based on these results may shed further light on temporality. Awareness of this research could assist in mindful approaches to building resilience amongst trainees.

Monday May 06

### **Trends in the Poster Presentations by International Medical Graduates at the Annual APA Meetings**

*Shahzain Hasan M.D.; Misbah Alam M.D.; Farhan Mohammed M.D.; Jose Carlos Real*

Medical students trainees and healthcare professionals present their posters at national conferences to receive feedback gain knowledge network and enhance their biodata to enter residency programs (1). This exercise has gained popularity over the past few years including international medical graduates (IMGs) due to increased competitiveness to enter residency programs particularly psychiatry (2). One of the largest psychiatric meetings in the United States (US) is the American Psychiatric Association (APA) annual meeting which provides a popular platform for psychiatry applicants from around the globe to present their posters on the big stage. In the past poster contributions have been dominated by US graduates. However many IMGs mainly from South Korea India and Pakistan have presented posters in the past few years. We gathered poster presentation data from 2015 to 2021 to compare the yearly frequency poster topic and author's country of origin between the US IMGs and other medical graduates. A cross-sectional study yielded 6378 poster presentations at the APA meetings from 2015 to 2021. There was no annual APA meeting in

2020 due to COVID-19. Data entry and statistical analysis were done using Statistical Package for Social Sciences 25.0 (SPSS v25.0). Frequencies amongst various variables were computed to compare distributions and topics of poster presentations by the IMGs versus US graduates over six years. The results showed that most participants were US graduates increasing from 39% in 2015 to 59.8% in 2021. Most IMGs during the six years reviewed were from India Pakistan South Korea and Canada (i.e. 92.7%). Poster presentations by the Indian IMGs were 11.6% in 2015 and 7.7 % in 2021 but the decline was more significant in the South Korean and Canadian IMGs. Pakistani IMGs poster presentations slightly increased from 4.2 in 2015 to 5.8% in 2021. Most posters (1664/6378) were presented in 2018 before the COVID pandemic. Despite a gradual increase in post-COVID presentations the pre-COVID numbers in 2018 have not been reached yet. Regarding the topic the most significant increase was observed in posters on mental health (15% in 2015 to 34% in 2021) perhaps due to COVID-related psychiatric effects. US graduates and South Korean and Pakistani IMGs were the ones who switched from psychopharmacology to mental health. In contrast Canadian IMGs continued to focus on mental health topics over six years. Although psychopharmacology declined in 2018 it did not change much in 2015 and 2021. However schizophrenia posters decreased from 11.5 in 2015 to 6.9% in 2021 and depression posters from 10.2% in 2015 to 8.6% in 2021. Overall the results suggest the continued dominance of the US graduates with some country-of-origin-based differences in poster presentations by the IMGs (3). The data also showed the effects of a pandemic on the number of poster presentations and their topics.

Monday May 06

### **Understanding the Resources Medical Students Find Beneficial to their Mental Health and Barriers to Accessing Care**

*Ghazal Javaid; Juliet Villegas; Stacey Fanning Ph.D.; Jeffrey Gardere Ph.D.*

Background: This study outlines an important topic in the medical student community: mental health. Previous research has found that the rates of suicide and depression are increasing in the medical student population. However not much research has been done to understand the factors that are leading to this increase resources this population finds helpful or reasons why this population might not be getting proper care. Objective: To identify the resources medical students find beneficial to their mental health and the perceived barriers they must overcome to attain mental health care. Methods: In the Fall of 2023 a questionnaire was distributed to the enrolled students in TouroCOM Harlem (n=200). The questionnaire assessed the state of their mental and physical health the factors that affect their mental health and a series of questions asking what they believe helps their mental health to what extent it helps and what stops them from accessing various types of help. Responses were analyzed using descriptive statistics to identify common themes. Results: According to the GAD-7 questionnaire 25% of students have moderate/severe generalized anxiety. According to the PHQ-9 questionnaire 24.86% of students have moderate to severe/severe depression. Furthermore 65% of participants reported using a professional mental health resource: outside-school therapy/counseling seeing a psychiatrist and school counseling being the top three professional resources used. Of

those who have used outside therapy/counseling 82.25% of students found it to be very or somewhat helpful and 75.51% of students would use it again. Of those who use or have seen a psychiatrist 91.67% of students found it to be very or somewhat helpful and 84.85% of students would use it again. Of those who have used school counseling 44.55% of students found it to be very or somewhat helpful and 33.33% of students would use it again. Exercise/diet (79.87%) reaching out to a loved one (72.96%) and meditation (31.45%) were the top three self-help resources being used by students. This data shows that there are proven resources that students find helpful and would be willing to use again. However time (68.75 %) finances (44.89%) and insurance coverage (42.05%) were the top three moderate or severe barriers to accessing care. Conclusions: This is a call to action for the medical school community to create a more supportive environment that maintains good mental health and assists students struggling with their mental or physical health. It also encourages students to use resources reported as being helpful.

Monday May 06

### **Unraveling COVID-19's Impact: Symptom Screening and Seclusion Practices in Psychiatric Care**

*Katerina Liang B.S.; Michael Wang B.S.; Adam Lowry; Angela Le D.O.; Shabnam Sood*

Background: The COVID-19 pandemic caused by the SARS-CoV-2 virus has presented unique challenges for psychiatric hospitals due to the diversity of symptoms across variants and difficulty controlling for infection in a crowded environment. Our hospital's protocol designates an individual as "Person Under Investigation" (PUI) requiring isolation

after endorsing one or more COVID-19 symptoms which comes at significant cost to patients staff and systems. Objectives: This study primarily aimed to explore the prevalence and predictive value of COVID-19 symptoms across three distinct variant-predominant time periods [alpha delta omicron] and to determine the impact of hospital policies on rates of agitation via seclusion and restraint (S&R) usage in an involuntary psychiatric hospital. Methods: Retrospective chart review using REDCap for HIPAA-compliant data storage and Statistical Package for the Social Sciences (SPSS) for data analysis. Symptom prevalence reported via PUI checklist was tabulated when an individual developed 1+ COVID-related symptoms. S&Rs were tabulated 48 hours before and after being made PUI using paired data. Results: 193 of 238 adults met inclusion criteria 77.7% of whom were white 15.5% black followed by American Indians and Asians. Only 15 of the 193 individuals had a positive lab result after being made PUI. 11 tested positive for COVID 3 for Influenza A and 1 for RSV. The remainder still required isolation until asymptomatic. Symptoms among the 11 COVID positive individuals were nasal congestion (5) body aches (4) sore throat (4) headache (3) cough (3) nausea/vomiting (2) fatigue (2) and loss of taste or smell (1). There were 3 COVID positives during period 1 (alpha) 1 during period 2 (delta) and 8 during period 3 (omicron). Predictive values for variant-specific symptomatology were inconclusive due to low number of positive patients in each time period. Frequency of S&R events were not significantly different before vs. after PUI ( $p>0.999$ ). Conclusions: Current symptom-based quarantine measures aimed at detecting early infection and preventing spread are sensitive for symptomatic COVID infections but were found to have low

specificity in diagnosing patients due to confounding factors mimicking COVID infection of both infectious (i.e. Flu RSV) and non-infectious (i.e. medication adverse effects) etiologies. PUI-type hospital policies require significant resource allocation increase staff burnout and lead to false positive screens with consequences that merit further investigation. The current study did not find an increase in frequency of S&R orders following PUI designation though future studies may explore the impact of PUI policies on psychiatric outcomes such as length of stay. Given the fewer-than-expected COVID-positive cases the findings presented may help guide COVID-19 psychiatric hospital policies going forward to improve the balance between policy burden and positive patient outcomes.

Monday May 06

### Poster Session 9

Monday May 06

### Behavioral and Psychosocial Factors Related to Mental Distress Among Medical Students

*Kathleen Carlos MD PhD*

Introduction Physicians die by suicide at rates higher than the general population with the increased risk beginning in medical school. To better understand why this study examined the prevalence of mental distress (e.g. depressive symptoms suicide risk) and behavioral and psychosocial risk factors for distress as well as the associations between mental distress and risk factors among a sample of medical students in a pre-COVID-19-era. Methods Students enrolled in a large California medical school in 2018-19



(N=134; 52% female) completed questionnaires assessing sociodemographic characteristics depression and suicide family history health behaviors and psychosocial well-being. Assessment scores indexing mental distress (e.g. depressive symptoms thoughts of suicide in the past 12 months suicide risk and history of suicidality) and risk factors (e.g. stress subjective sleep quality alcohol use impostor feelings and bill payment difficulty) were compared across biological sex using chi-squared tests and associations between mental distress and risk factors were determined through logistic regression. Results Elevated mental distress indicators were observed relative to the general public (e.g. 16% positive depression screen 17% thought about suicide in previous 12 months 10% positive suicide risk screen 34% history of suicidality) as well as elevated risk factors (e.g. 55% moderate or high stress 95% at least moderate impostor feelings 59% poor sleep quality 50% screened positive for hazardous drinking (more likely in females) 25% difficulty paying bills). A positive depression screen was associated with higher stress higher impostor feelings poorer sleep quality and difficulty paying bills. Suicidal ideation in the previous 12 months suicide risk and a history of suicidality were independently associated with higher levels of impostor feelings. Discussion Higher scores on assessments of depressive symptoms and suicidal thoughts and behaviors were related with several individual-level and potentially modifiable risk factors (e.g. stress impostor feelings sleep quality bill payment difficulties). Future research is needed to inform customized screening and resources for the well-being of the medical community. However it is likely that modification of individual-level risk factors is limited by the larger medical culture and systems suggesting that successful

interventions to mitigate suicide risk for medical providers needs to address multiple socio-ecological levels.

Monday May 06

### **Cannabis Use and Brain Changes: Implications for Schizophrenia Susceptibility**

*Najiha Alam; Tina Singh; Shannon Giliberto*

Background: Schizophrenia is a multifactorial mental disorder characterized by hallucinations delusions and cognitive deficits. Genetic neurochemical and neurodevelopmental factors play pivotal roles in its onset and progression.<sup>1</sup> Research has shown that the onset of schizophrenia can be associated with early cannabis use. Cannabis is a widely consumed psychoactive substance that primarily interacts with the endocannabinoid system affecting mood cognition and perception.<sup>23</sup> Individuals who had tried cannabis by age 18 were 2.4 times more likely to be diagnosed with schizophrenia than their abstinent counterparts. Both schizophrenia and cannabis use involve alterations in neurochemical pathways and brain structures.<sup>4</sup> This complex relationship underscores the need for further research of the interplay between cannabis use and schizophrenia susceptibility. This literature review provides a summary of the current understanding of how cannabis use affects the brain and its relevance to the development of schizophrenia. Methods: A thorough analysis of peer-reviewed literature on PubMed was conducted on studies published between 2000 and 2023 that examined the effects of cannabis use on brain structure and function as well as its association with schizophrenia susceptibility. Keywords used include “schizophrenia”

“cannabis” “brain” and “adolescent.” Other inclusion criteria included open-access and English concluding in a total of 15 articles. Results: Accumulating evidence suggests that cannabis use during adolescence can lead to structural brain alterations in regions associated with schizophrenia such as the prefrontal cortex hippocampus and striatum potentially contributing to schizophrenia-like cognitive and psychotic symptoms.<sup>5</sup> A few studies reveal that initiating cannabis use at a younger age is linked to increased gray matter volume and more severe positive psychotic symptoms.<sup>6</sup> Moreover both cannabis users with and without schizophrenia showed reduced cerebellar white-matter volume compared to healthy non-users with the most significant reduction observed in cannabis users with schizophrenia.<sup>5,7</sup> Additionally research involving mouse models suggests that adolescent cannabinoid exposure can lead to behavioral and molecular changes resembling aspects of schizophrenia pointing to metabotropic glutamate receptor type 5 (mGluR5) as a potential therapeutic target.<sup>8</sup> These findings highlight the vulnerability of the adolescent brain to cannabis and its potential implications for schizophrenia-related symptoms. Conclusion: In summary this review highlights the intricate link between cannabis use and schizophrenia sharing neurochemical pathways and structural brain changes. Further research is essential to unravel this complex relationship aiding in the development of prevention and treatment strategies for schizophrenia.

Monday May 06

### **Case Series Review Using Modified HoNOSCA to Improve Quality and Outcomes of Telepsychiatry Assessments of Adolescents in the Emergency Department**

*Tae Un Kim D.O.; Peng Pang M.D.*

Objectives: Comprehensive assessment of adolescent risk factors via telepsychiatry in our emergency department (ED) is challenging which increases the potential for discharging high-risk patients without adequate harm mitigation. We utilize modified Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) including novel questions to further address salient risk factors such as parental support deficits. Methods: An independent reviewer scored 10 patients who were discharged from the ED using HoNOSCA Brief Psychiatric Rating Scale (BPRS) and Children’s Global Assessment Scale (CGAS) at 2-time points: at the ED and at our bridging clinic within 5 days of discharge. We added 2 items to HoNOSCA to reflect parental support deficits and extremely risky behavior in adolescents. The Wilcoxon signed-rank test was used to detect the differences in assessments at the 2-time points. The convergent validity of HoNOSCA with BPRS and with CGAS respectively were tested using Spearman’s rank correlation coefficients. Results: The total HoNOSCA scores at the ED and 5-day follow-up for 10 patients differed significantly; symptoms and functional impairments appeared worsened overall at follow-ups; using the Wilcoxon signed-rank test the value of W was 1 and the critical value for W at N = 10 (p <.05) was 8; the result was significant at p <.05. Subsets of symptoms functioning and parental support deficits scored consistently worse at follow-ups. Specifically disparities in parental support deficit scores appeared to be the most clinically significant. The associations between HoNOSCA symptom sums versus BPRS and HoNOSCA function sums versus CGAS were considered statistically significant  $r_s = 0.63498$  p (2-tailed) = 0.04855  $r_s = -0.95307$  p (2-tailed) = 2E-05 respectively

indicating convergent validity of HoNOSCA with BPRS and CGAS. Conclusions: This case series of 10 adolescents discharged from our ED scored differently in symptoms functioning and parental support deficit domains of HoNOSCA at follow-ups suggesting inadequate ED risk assessments prior to community referrals. HoNOSCA can be used to improve the quality of crisis evaluations of adolescents by underscoring functional domains and psychosocial supports which may not be consistently emphasized in our current practice.

Monday May 06

### **Compulsory Psychiatric Admission into Hospital on the Isle of Man – Improving the Quality of Section Papers**

*Richard Hillier Ph.D. M.B.; Rupal Ekeberg*

**Introduction** Depriving someone of their liberty even for their own health is a serious matter. There are strict regulations around when this can be done in the form of legislation under the Mental Health Act (MHA). For both 28 day detentions under Section 2 of the MHA and 6 month detentions under Section 3 an approved Social Worker (ASW) needs to seek the opinion of two Section 12 approved doctors as to whether compulsory detention is required. The doctors must decide that the patient has a mental illness of a nature and/or degree that detention against the patient's wishes is warranted as for a Section 2 or necessary as for a Section 3 in the interests of the patient's health safety or to protect the safety of others. If the doctors agree that detention is required they then complete recommendations and the ASW makes an application to detain the patient. Checks and balances need to be in place to ensure that the compulsory detention is not

misused. Section papers are scrutinised at the time of detention and errors corrected when noticed. Here we present two cycles of an audit of the quality of recommendations on section papers. **Methods** We looked at section papers of all patients that were detained in March 2021 and March 2022 and compared them to a checklist for good practice. The checklist had seven items essential for good practice and supporting the legality of detention under the MHA. **Results** In March 2021 there were 7 patients detained under the MHA across the two wards 1 under a Section 2 1 admitted under a Section 3 as well as 5 that were admitted under a Section 2 and subsequently been re-graded to Section 3. Of the Section 2 papers 50% had significant errors or omissions on a number of criteria (n=2 for 2 errors n=1 for 5 errors) making the basis for detention unclear in these cases. Similarly 50% of Section 3 recommendations had errors or omissions (n=2 for 2 errors n=1 for 5 errors). In March 2022 there were 11 patients detained under the MHA across the two wards 2 under a Section 2 and 9 admitted under a Section 3. There were still errors in the recommendations. Of the Section 2 papers 50% had significant errors or omissions on a number of criteria (n=1 for 5 errors). For the Section 3 recommendations 5 out of 9 had errors or omissions (n=4 for 1 error n=1 for 2 errors). **Conclusions** There was improvement in the quality of section papers in the re-audit with fewer errors and omissions. Although there were a similar number of papers with some errors there were fewer papers with multiple errors. One improvement was that more of the detention criteria were met. The nature and degree of mental illness were described clearly in the re-audit. This may be explained by training that was implemented following the first audit. Our results show that there is

room for further improvement and more training may be indicated.

Monday May 06

### **Confronting Competency Restoration in Substance Abuse Patients in Correctional Settings**

*Abby Chainani M.D.; Jonathan Hyacinthe D.O.; Jose Capiro; Daniel Grimes*

Background: The most common behavioral syndrome in correctional settings substance abuse can present a barrier to competency restoration. Historically cognitive limitations have been understood to be the major barrier to restoring competency. Studies have shown substance use diagnoses have not been significantly associated with failure of competency restoration. This review postulates substance use directed therapies in correctional settings play a major role in swift competency restoration. Methods: A MEDLINE search was performed using key terms “competency restoration” “substance use” “mental prison”. The first half of the searched studies focused on patients in prison setting with substance abuse history and its effect on competency restoration. Reviews from journals of law and psychiatry were evaluated and discussed. The second half focused on current evidence available for behavioral treatment modalities for substance use in patients in prison settings. Systematic reviews were used as evidence for determination of efficacy of substance use behavioral treatments in prison settings. Results: A systemic review described motivational interviewing and cognitive skills with relaxation therapy may benefit patients in preventing further drug use and recidivism. More evidence is currently available for cognitive behavioral therapy in therapeutic community prison-based setting. Many of the

studies referenced are not part of the US judicial system; hence applicability of studies may be hindered. Conclusion: While substance abuse presents a barrier to competency restoration available substance use therapies in correctional settings may prevent significant prolongation of competency restoration. Further investigation is needed to evaluate a more complete host of therapies that may benefit patients with substance abuse history in correctional settings most as well as its effect on time required to restore competency. There is no research funding to disclose.

Monday May 06

### **Efficacy and Safety of Valproate as an Adjunctive Treatment for Agitation/Aggression in Schizophrenia Spectrum Disorders: A Systematic Review**

*Jonathan Stone BS; Mohan Gautam D.O.;M.S.*

Background: Agitation and aggression are prevalent and challenging symptoms in schizophrenia spectrum disorders. While antipsychotic medications are the primary treatment the potential role of adjunctive medications like valproate is gaining attention. This literature review delves into the efficacy and safety of valproate as an adjunctive treatment for these symptoms. Methods: A systematic search was conducted across two major databases: PubMed and EMBASE. The search strategy employed the following keywords: “(Valproate OR divalproex) AND (aggression OR agitation) AND (schizophrenia OR psychosis)”. The inclusion criteria focused on randomized controlled trials (RCTs) published in English over the past 20 years. Results: Out of the initial 36 studies identified two RCTs were selected for in-depth analysis. Both studies highlighted the potential benefits of

adjunctive valproate in significantly reducing agitation and aggression symptoms in schizophrenia patients with minimal adverse effects when compared to standard antipsychotic treatments. Conclusion: The systematic literature review underscores the potential therapeutic role of valproate as an adjunctive treatment for agitation and aggression in patients with schizophrenia spectrum disorders. Both identified RCTs consistently highlighted the efficacy of valproate in significantly reducing these challenging symptoms with a favorable safety profile. These findings suggest that valproate can be a valuable addition to the therapeutic arsenal for managing agitation and aggression in schizophrenia especially in cases where primary antipsychotic treatments may not suffice or when additional symptom control is desired. However it's imperative to approach its use with caution considering individual patient factors and potential drug interactions. While the current evidence is promising there remains a need for more extensive large-scale studies to further elucidate optimal dosing treatment duration and long-term effects thereby paving the way for more definitive clinical guidelines on the use of valproate in this patient population. Contribution to Existing Literature: While several studies have explored various treatments for agitation and aggression in schizophrenia this review specifically underscores the potential of valproate as an adjunctive option. By synthesizing results from RCTs this review offers a consolidated perspective on valproate's efficacy and safety emphasizing its potential role in clinical settings and highlighting areas for future research.

Monday May 06

## **Evaluating the Safety and Efficacy of Doxazosin in Managing PTSD-Related Nightmares Among Normotensive Patients: A Comprehensive Literature Review**

*Kevin Regan OMS-II; Adam Friedman BS MBS; Alex Vega BS; Martin Forsberg MD*

**BACKGROUND:** Post-Traumatic Stress Disorder (PTSD) is a psychiatric condition manifesting as intrusive memories heightened arousal and emotional numbing following exposure to traumatic incidents. Prazosin an alpha-1 adrenergic antagonist has been studied for its applicability in treating PTSD symptoms particularly nightmares. Increasingly Doxazosin is being considered as an alternative. It shares the alpha-1 adrenergic antagonist mechanism but offers pharmacokinetic advantages including a longer half-life that allows for once-daily dosing and slower peak plasma levels potentially reducing the risk of hypotension and orthostatic events. Despite these benefits questions remain about Doxazosin's safety profile in the PTSD population a concern this literature review aims to address. **PURPOSE:** To investigate Doxazosin's safety and efficacy in normotensive PTSD patients with nightmares. **METHODS:** A comprehensive literature search was performed in PubMed and Embase databases using the keywords "doxazosin" "hypotension" "hypertension" "normotension" "prazosin" "PTSD" "nightmares" "pharmacokinetics" "blood pressure" "Doxazosin GITS" "safety" and "efficacy." Inclusion criteria specified peer-reviewed studies after 1983 focusing on human trials and case series case reports and retrospective chart reviews. Exclusions were made for non-English studies studies involving pheochromocytoma animal studies and participants who were under 18 years of age. Outcome measures evaluated were



both quantitative - blood pressure values in mmHg nightmare cessation doses of Doxazosin used and time after Doxazosin administration - as well as qualitative such as side effects related to Doxazosin usage. Articles selected spanned from 1983-2023 and data were extracted based on methodology sample size and key findings. RESULTS: Overall the incidence of hypotension appears to be relatively low among PTSD patients treated with doxazosin. Compared to prazosin doxazosin seems to offer fewer side effects including a reduced risk of hypotension. The drug's longer half-life contributes to maintenance of effect throughout the night which may facilitate improved adherence. While orthostatic hypotensive events were reported in some studies it can be largely attributed to the first dose effect and the impact was generally not severe enough to discontinue treatment. Dosing levels and formulation type (GITS vs. standard) also influence the incidence of hypotension. CONCLUSION: Doxazosin appears to be a promising alternative to prazosin for treating PTSD-related nightmares with a lower incidence of hypotension and its related side effects. However more extensive research is needed to conclusively establish its safety profile. This review adds to a growing body of literature regarding off-label use of alpha-1 adrenergic antagonists for the treatment of PTSD and other pathologies within the field of psychiatry.

Monday May 06

**Gut and oral microbiome modulate molecular and clinical markers of schizophrenia-related symptoms: A transdiagnostic multilevel pilot study**

*Jakleen Lee; Jose Clemente PhD; Dolores Malaspina M.D.; Oded Gonen PhD; Jessica Robinson-Papp MD MS*

Although increasing evidence links microbial dysbiosis with the risk for psychiatric symptoms through the microbiome-gut-brain axis (MGBA) the specific mechanisms remain poorly characterized. In a diagnostically heterogeneous group of treated psychiatric cases and nonpsychiatric controls we characterized the gut and oral microbiome plasma cytokines and hippocampal inflammatory processes via proton magnetic resonance spectroscopic imaging (1H-MRSI). Using a transdiagnostic approach these data were examined in association with schizophrenia-related symptoms measured by the Positive and Negative Syndrome Scale (PANSS). Psychiatric cases had significantly greater heterogeneity of gut alpha diversity and an enrichment of pathogenic taxa like Veillonella and Prevotella in the oral microbiome which was an accurate classifier of phenotype. Cases exhibited significantly greater positive negative and general PANSS scores that uniquely correlated with bacterial taxa. Strong positive correlations of bacterial taxa were also found with cytokines and hippocampal gliosis dysmyelination and excitatory neurotransmission. This pilot study supports the hypothesis that the MGBA influences psychiatric symptomatology in a transdiagnostic manner. The relative importance of the oral microbiome in peripheral and hippocampal inflammatory pathways was highlighted suggesting opportunities for probiotics and oral health to diagnose and treat psychiatric conditions.

Monday May 06

**Identifying Cognitive Distortions in Physician Guilt Through Media**

*Vincent Zhang MPH; Allison Dinar D.O.;  
Fauzia Arain M.D.; Douglas Opler M.D.*

Background: Physicians will observe adverse outcomes during their career including death. When adverse outcomes occur physicians are potentially prone to feelings of undeserved guilt. Attention has been drawn to the connection between physician guilt and negative outcomes such as burnout and suicide. Cognitive processing therapy (CPT) is an evidence-based form of cognitive behavioral therapy used to treat post-traumatic stress disorder. Cognitive behavioral concepts derived from CPT may be helpful in providing physicians insight into undeserved guilt. CPT assists patients in challenging maladaptive cognitive distortions that contribute to dysphoria and undeserved guilt. Teaching psychiatry through media has been shown to be an effective method which fosters interest in the subject and engenders strong and lasting impressions by learners. We reviewed movies and television shows for examples of cognitive distortions that contribute to feelings of undeserved guilt as a potential teaching aide to help physicians gain insight into the undeserved guilt that may occur in a healthcare career. Methods: Search results on Google were performed for “movies+ physician guilt” “television show+ physician guilt” and “popular media+ physician trauma.” Media was then reviewed for cognitive distortions derived from CPT. Additional examples were added from our own knowledge base. Of the eight movies and six television episodes found with examples of physician guilt five from each category were chosen. Results: Analysis of these examples (such as House S2 E3: Humpty Dumpty (2005) The Unknown Girl (2016) The Doctor (1991) Awakenings (1990) John Q (2002) and Grey’s Anatomy S8 E24: Flight (2012)) found that physician guilt is portrayed in these media. The most common theme in

these examples was that of a critical mistake being made by a physician and then a feeling of guilt due to the patient suffering which did not always represent a cognitive distortion. However cognitive distortions that did present included concepts such as hindsight bias (a doctor thinking what he/she could have done to stop a past traumatic event) outcome-based reasoning (‘my patient had a bad outcome so it must have been due to my bad choices’) personalization (accepting blame for something outside the physician’s control) and magnification (blowing a small mistake out of proportion especially when it does not significantly impact patient care) Discussion and Conclusion: These media provided a readily available and memorable pool of examples of undeserved physician guilt. Cognitive distortions were underlying many of these examples. As such media serves as a potential tool to assist physicians in understanding and addressing undeserved guilt and so could be used as part of an intervention to assist physicians in more realistically appraising adverse outcomes combating burnout and maintaining wellness.

Monday May 06

### **Leave Your Bias at the Door: Managing the Stigma Surrounding Treatment for Mental Illness in Medical School**

*Farid Jabbari BS; Brigitte Torrise M.D.*

Despite efforts to increase public awareness and normalization of mental illness this topic continues to hold a stigma amongst medical professionals ultimately resulting in reduced treatment-seeking behavior delayed support and worse health outcomes for medical students. The emphasis on developing a professional identity in medical school allows for the minimization of students’ vulnerability to the sick role and the abeyance of mental

health issues due to the accumulation of long work hours stressful clinical experiences and poor accessibility to sick leave.<sup>3</sup> This occurs in the setting of fear that disclosing the diagnosis and treatment of a mental illness will influence their prospects in residency applications and the medical licensure process.<sup>12</sup> As elucidated by the case here trauma and stress experienced in medical school may worsen prior mental health issues as well as become the source for new psychiatric illnesses such as PTSD resulting in an affected student taking a leave of absence (LOA). The distress during this LOA is exacerbated by concern that the care received during this time would hold stigma upon their potential return to school. A 28-year-old patient with a history of depression and ASD was brought in to psychiatric emergency services by ambulance on a Public Officer Hold for erratic behavior and suicidal thoughts. On initial evaluation they described a traumatic experience in medical school one year ago that led to worsening symptoms of depression and PTSD resulting in a leave of absence from school. They struggled to provide a linear account of events and required frequent redirection but reported engaging in suicidal behaviors and noted similar suicidal intent on presentation. Collateral information was obtained from parents who stated that the patient engaged in a spending spree minimal sleep hours unsafe behavior and paranoia toward the family for the past few months. This patient was admitted for inpatient treatment for concern of untreated bipolar disorder and started on an appropriate antipsychotic resulting in improved mental status including good judgment and insight. They expressed a desire to continue receiving care however they also elaborated on the distress they felt around a return to medical school and whether this was something that they would

still be able to pursue given the potential consequences of having needed and received psychiatric care. In this poster we discuss the challenges of managing countertransference while caring for a fellow health professional-in-training and recommend the production and amplification of explicit policy to protect the well-being of young health professionals who are as vulnerable to mental illness as the patients they seek to serve.

**Monday May 06**

**Navigating Suicidal Ideation:  
Distinguishing Psychosis - Induced vs.  
Depression-Related Symptoms - A Case  
Report**

*Natasha Anand; Daniel Ko; Matthew Louie;  
Parisa Hashemi D.O.*

In this case study we explore the intricate diagnostic and therapeutic challenges posed by a patient presenting with concurrent psychotic and depressive symptoms particularly suicidal ideation within the context of catatonia. Our subject is a 20-year-old Hispanic male with a complex psychiatric history encompassing post-traumatic stress disorder depressive disorder anxiety disorder obsessive-compulsive disorder and attention deficit hyperactivity disorder. He has previously been hospitalized for psychiatric reasons and has a history of vague past suicide attempts. Notably the patient has also struggled with substance abuse involving marijuana and alcohol. The patient's initial presentation was characterized by catatonia evident through psychomotor retardation limited speech and command auditory hallucinations self-harm accompanied by paranoia. The primary focus of admission was to address psychosis attributed to his history of schizophrenia and auditory hallucinations. However the clinical picture

grew more intricate as depressive symptoms emerged intertwining with suicidal ideation. To manage the catatonic symptoms the patient was administered lorazepam leading to gradual improvements during hospitalization. Paradoxically as the catatonia improved psychosis surfaced with the patient reporting severe command auditory hallucinations that compelled him to engage in self-harm and endorse suicidal thoughts. Concurrently experiences of paranoia thought insertion and thought broadcasting were reported. To address these symptoms Abilify was introduced resulting in an overall improvement in psychosis though command auditory hallucinations persisted. Beyond the realm of psychotic symptoms the patient conveyed feelings of depression anger frustration and isolation. A poor self-image contributed to reduced food intake. Intriguingly the patient believed that the voices and suicidal ideation were connected to his depression rather than the other way around prompting the introduction of Zoloft to target depressive symptoms. This case underscores the intricate nature of suicidal ideation in individuals grappling with comorbid psychotic and mood disorders. Pinpointing the primary disorder responsible for command auditory hallucinations and consequently suicidal ideation proved to be a challenging yet pivotal aspect of formulating an effective treatment plan especially in the context of initial catatonic features. The case stands out due to the initial prominence of catatonia which initially obscured both psychotic and mood disorder symptoms rendering it difficult to establish the primary cause of the patient's suicidality. Furthermore disentangling whether the patient's catatonia was primarily influenced by the psychotic or mood disorder remains a complex task given the patient's endorsement of symptoms from

both categories and the lack of clarity regarding their chronological onset.

Monday May 06

### **Novel Presentations of Post-Infectious Catatonia: A Case Series**

*George Han M.D.; Beatrice Huang D.O.; Michael Collins D.O.; Theodora Browne D.O.; Peyton Thigpen*

Background: Catatonia has long been recognized as a significant neuropsychiatric disorder that has been associated with many etiologies. While catatonia is often associated with primary psychiatric etiologies it has also been attributed to medical etiologies such as post-infectious states. Here we present three cases of patients who exhibited catatonic symptoms during their hospital courses after recent COVID-19 infections. Case 1: 49 year old male with no medical history but a confirmed recent COVID-19 infection presented with first-break psychosis. His psychosis began remitting upon treatment with PO Olanzapine but he developed symptoms of catatonia including poor oral intake mutism and generalized hypoactivity correlating to a Bush-Francis Catatonia Rating Scale (BFCRS) score of 6. Following a challenge with PO Lorazepam with positive results he was initiated on scheduled Lorazepam with continued improvement sustained through discharge and his outpatient follow-up appointment. Case 2: 17 year old male with a history of generalized anxiety disorder who presented with exacerbation of anxiety as well as new onset psychosis and disorientation in the setting of recent COVID-19 infection. Initial trial of low dose Quetiapine exacerbated his symptoms and he began exhibiting new symptoms of catatonia including mutism withdrawal poor oral intake and fluctuation in

mentation (BFCRS score 13). The patient achieved a partial response with IV Lorazepam and further improvement with inpatient ECT treatments. He was discharged on PO Lorazepam and scheduled outpatient ECT. Case 3: 28 year old pregnant female with a history of postpartum depression who presented with progressively worsening mutism immobility and poor oral intake (BFCRS score 14) after a COVID-19 infection. Due to initial concerns for paranoia and internal preoccupation she was trialed on IM Ziprasidone and Olanzapine with minimal improvement in her symptoms. A dramatic improvement in symptoms occurred after an IM Lorazepam challenge. She was started on scheduled Lorazepam PO or IM in addition to Sertraline and was eventually discharged. The patient was readmitted due to recurrence of catatonia (BFCRS score 8) from medication noncompliance. She was restarted on scheduled high dose Lorazepam and ECT was pursued. She eventually completed 14 sessions of ECT with steady improvement in symptoms. PO Lorazepam was continued after her delivery and she continues to receive the medication in the outpatient setting. Conclusion: This series aims to highlight the heterogeneous presentation and management of post-infectious catatonia in patients with a variety of psychiatric histories. Standard treatment with benzodiazepine and ECT appears to be beneficial. While these cases responded adequately to standard management of catatonia this series adds to the growing body of literature that describes neuropsychiatric manifestations of COVID-19.

Monday May 06

### **Outcomes in psychotherapeutic interventions for co-occurring chronic pain and substance use disorders**

*Lynn Nguyen; Celeste Nadal M.D.; Samuel Mendez Araque*

Background Chronic pain defined as pain for greater than three months is often treated with opioids. Although patients with chronic pain typically take opioids as prescribed some patients are at risk for developing behaviors associated with addictive opioid use. An estimated 11.5% of these patients engage in opioid misuse in the form of drug-seeking attempts use of opioids to self-medicate or unauthorized dose escalation. Since non-pharmacological interventions have shown efficacy in managing chronic pain and substance use disorders as separate conditions psychotherapies that treat comorbid chronic pain and substance use disorders can be beneficial for patients. This review explores psychotherapies used in treating patients with comorbid chronic pain and substance use disorders to provide perspective on which therapies exist as well as their efficacy. To the researchers' knowledge this is the first review on this topic since 2018. Methods The literature search was conducted using PubMed. Search terms were selected using DSM IV and V and ICD 8 and 9 diagnoses and combined using Boolean logic principles. Studies were included if patients had comorbid substance use disorder (e.g. dependence abuse etc.) and chronic pain syndrome (e.g. fibromyalgia chronic fatigue syndrome etc.) diagnoses participants were age 18 or older and psychotherapeutic interventions were implemented. Only English articles presenting US-based interventions and original data on our topic were included. Results The PubMed search yielded 1937 references; 25 additional references were identified through other sources. 1880 sources (including 5 duplicates) were excluded based on title and abstract; 41 of the remaining 82 met inclusion criteria. These



trials utilized a variety of interventions that were found to be efficacious including acceptance and commitment therapy (ACT 3 trials); cognitive behavioral therapy (CBT 10 trials); the mindfulness-oriented recovery enhancement (MORE 10 trials) model; interventions combining multiple modalities of psychotherapies (5 trials); and various other psychotherapeutic models (13 trials). Of these settings included primary care (5 trials) technology such as phone or Internet (5 trials) and group settings (3 trials). Conclusion This study demonstrated that several existing psychotherapies have proven effective in treating patients with co-occurring substance use disorders and chronic pain. More treatments are being developed as evidenced by a number of protocols in place for future studies ongoing trials and experiments with yet unpublished findings. Psychotherapy for comorbid chronic pain and substance misuse is rich for exploration; further investigation may lead to a wider variety of treatments that clinicians can offer to complex patients.

Monday May 06

### **Personal and Social Functioning in Schizophrenia and Bipolar Affective Disorder-Type I Patients on Long-Acting Injectable Antipsychotics:A Pilot Study**

*Svetlana Milenkovic M.D.*

Abstract Background: Long-acting injectable have decreased the rates of mortality and hospitalization in schizophrenia patients only while their beneficial effects are even more controversial in bipolar affective disorder – type I patients. Working Hypothesis: The aim of this study is to investigate if long acting injectable antipsychotics have decreased a risk of rehospitalization improved tolerability functionality and quality of life in

schizophrenia and bipolar I patients. Study Design and Methods: This is a pilot retrospective study in which assessment of personal and social functioning was conducted by Social and Personal Performance Scale as well as with a therapeutic consultation with patients and their family members and charts review of 10 patients with schizophrenia and bipolar I disorder on Aripiprazole Once Monthly or Paliperidone Palmitate Once Monthly or Risperidone Consta injections. Study Results: This pilot study included 5 patients with schizophrenia/schizophrenia spectrum disorders (age range 34-74; 40% male) and 5 patients with bipolar affective disorder-type I (age range 33-58; 40% male). Prior to study period 80% of patients in both study groups were on no medication(s) or oral medication(s) including oral antipsychotic. One patient in schizophrenia group was on Modecate depot injection and was switched to Paliperidone Palmitate Once Monthly while one patient in bipolar I group was on Risperidone Consta and oral Olanzapine and remained on it (as per patient's preference). Duration of study period varied from less than one year in both study groups up to 10 years (median 2-3 years) in schizophrenia group and up to 15 years (median 1-3 years) in bipolar I group. All the study participants were unemployed and not involved in academic study. Prior to study period all participants had 3 or more hospitalizations. On long acting injectable one patient with schizophrenia (Dual Diagnosis) and one patient with bipolar I (on Risperidone Consta) were hospitalized. All study participants on long acting injectable have shown remarkable improvement in decreased rate of hospitalization symptom control (including disturbing and aggressive behaviors) medication tolerability self care activities of daily leaving personal and social relations

development of volunteer/career goals and involvement in academic study. The later was mostly observed in bipolar I patients where one patient completed academic study. On a long acting injectable antipsychotics Personal and Social Performance Scale Scores of 40 50 55 60 and 65 were observed in schizophrenia group while the same Scale Scores of 50 60 70 80 and 85 were observed in bipolar I group. Conclusion: based on this observation there is a potential for a gainful employment in some bipolar patients on long acting injectable. Further higher quality studies with a larger sample size needs to be conducted in order to verify the results that were found in this pilot study.

Monday May 06

**Preclinical medical students' experience leading group dialectical behavior therapy for a student-run mental health clinic: a qualitative study**

*Jodie Nghiem BA;BS;M.B.A.; Michael Liu BA; Jessica Spellun; David Hankins*

Background: While some medical schools have started to introduce training in psychotherapy techniques in the clerkship year the literature has not described such initiatives during the preclinical years. Currently preclinical students report low confidence in incorporating psychotherapy into clinical care due to lack of current training thus underscoring the need for earlier training in psychotherapy. The Wellness Qlinic is a student-run LGBTQ+ mental health clinic which offers group dialectical behavioral therapy (DBT) facilitated by preclinical medical students. As part of their preparation to supervise these DBT groups the preclinical students were trained in the basics of DBT's theoretical approach and how to facilitate such groups. Methods: We conducted a

qualitative study to understand the experience and professional impact for student facilitators of the DBT groups. Student facilitators were recruited to participate in 1-hour semi-structured interviews. We performed thematic analysis which involved de-identifying transcribing and qualitatively coding interview recordings. Results: The Wellness Qlinic hosted 9 iterations of group DBT facilitated by preclinical medical students involving 18 student leaders and 30 patients. Twelve student facilitators were interviewed. Participants had a diverse array of specialty interests and were primarily motivated by the opportunity for early clinical experience. They reported improved clinical skills including increased comfort with silence confidence leading and working on an interdisciplinary team and empathy for patients. Students reported increased appreciation of the impact of psychotherapy on patients and increased interest in incorporating psychotherapy in their future practice. Furthermore participants reported using DBT skills to cultivate wellbeing during clerkship year and in their personal lives. The most commonly cited skills included Radical Acceptance DEAR MAN Accumulating Positive Emotions and Opposite Action. Conclusion: Offering preclinical medical students the opportunity to lead group DBT therapy is a novel educational model which provides training on psychotherapy techniques well before most medical students are exposed to them. This program provided an opportunity for early direct patient experience in a supervised group setting which attracted medical students with a diverse range of specialty interests. Our group DBT model proved influential in providing medical students specific DBT skills to implement in future patient care interactions and to maintain their personal

wellbeing throughout medical training. The broad appeal and profound impact of this program suggests the benefit of implementing similar curricula at other institutions.

Monday May 06

### **Psychiatric Education for the Digital Age: Psychiatry Boot Camp Podcast**

*Max Lydiatt M.D.; Mark Mullen M.D.*

The ever-evolving landscape of content delivery in medical education has moved quickly in the last 10 years. Lectures have been converted to active learning models and learners have embraced wacky but sticky mnemonic devices like “Sketchy medical” [1]. Today’s residents are used to learning how they want when they want. Podcasts are one of the fastest growing methods of asynchronous learning. [2] In the spirit of “meeting the learners where they are at” we took content delivered in “residency preparation courses” “crash courses” and “bootcamps” across the country and translated it into a medium that residents can listen to on their drive to work while exercising or driving across the country to start residency. This was driven by our published research which showed learners rave about these courses and desire more of them at both the medical school and residency level [3]. We aim to provide a further tool for educators as graduate medical education moves toward adult learning theory and embraces the increased efficacy of active learning models versus traditional lectures. We sat down with global experts to understand foundational topics in psychiatry; we developed the curriculum based on the available literature. Sometimes learners are more attuned to the latest educational media than their instructors. Our goal with this

poster is to introduce psychiatric educators to this freely available accessible method of learning and to bring world class psychiatric education to learners across the globe.

Monday May 06

### **Puff and Psychosis: A Retrospective Cohort Analysis of Hospitalizations in Patients with Schizophrenia and Nicotine Use**

*Synthia Lay M.D.; Long Nguyen D.O.; Rubani Sidhu M.D.; Rama Yasaei M.D.*

Background: The association between smoking and patients with schizophrenia has been established through epidemiology studies on various populations. There have been proposed hypotheses for this association one being that smoking ameliorates psychotic symptoms. This behavior not only increases the risk of medical comorbidities associated with smoking but it can also interfere with treatment and ultimately worsen prognosis. However few studies have examined specific outcomes in patients with schizophrenia who smoke. We aim to primarily determine if nicotine use affects the cumulative number of psychiatric hospitalizations in patients with schizophrenia and secondarily identify medical comorbidities in this population. Methods: This is a retrospective cohort study including 2270 patients from 2018-2022. Existing data was collected from the electronic medical record. A two-sample t-test was used to assess if there is a difference in the number of psychiatric hospitalizations between patients with schizophrenia who use nicotine and patients with schizophrenia who do not use nicotine. Any confounding variables were controlled using regression analyses. Results: There were a total of 2270 patients with diagnoses of schizophrenia schizoaffective disorder or bipolar disorder

who were admitted to the mental health hospital between 2018-2022. 59.9% of patients had a lifetime smoking history. Patients who smoked had significantly ( $p < 0.01$ ) more hospitalizations (mean hospitalizations=1.52) than patients who never smoked (mean hospitalizations=1.20). The most common medical comorbidities were observed to be hypertension (33%) diabetes (16%) chronic obstructive pulmonary disease (5%) and coronary artery disease (3%). Conclusions: Patients with schizophrenia and lifetime smoking history had significantly more hospitalizations compared to patients with schizophrenia who never smoked. This can inform disease course in vulnerable populations with a greater propensity to self-medicate with substances.

Monday May 06

### **Schizophrenia with religious delusions leading to severe and prolonged fasting: an interdisciplinary approach to care**

*Shivani Bhatt D.O.; Vishesh Agarwal M.D.; Kathleen Effler MD*

Delusions are a cardinal feature of psychotic illness present in around 75% of people with a schizophrenia spectrum diagnosis (1). Religious themes are common with approximately 1/5 to 2/3 of all delusions containing religious content (1). In order to be considered a religious delusion the belief must not be a culturally acceptable religious belief (1). Unfortunately patients with religious delusions are more likely to experience conflicts between religion and psychiatric care making them less likely to adhere to psychiatric treatment (2). Additionally patients with religious delusions may have fewer collective religious practices and less support from their religious

communities. (2) A middle-aged African-American female originally from Uganda with a past medical history of schizophrenia was admitted to the inpatient psychiatric unit four times during a six-month period for worsening religious delusions medication noncompliance poor oral intake weight loss and poor self-care. During her initial admission her religious delusions and preoccupations were telling her to constantly pray and dry fast for 40-days to “get the demons out of her body. She was admitted with anorexia/cachexia severe enough to require medical monitoring for refeeding syndrome and consideration for enteral/parental nutrition. The patient’s sister was her surrogate decision maker as the patient lacked capacity to make medical decisions. Palliative care as well as the ethics committee were consulted for complex medical decisions. The patient was treated with an interdisciplinary approach to her care involving medicine psychiatry nutrition palliative care pastoral care social work and the ethics committee. On day 37 of her fast the patient voluntarily started to eat by mouth and was eventually able to be discharged home. She continued to require recurrent admissions but with notable medical and psychiatric improvement over the six-month period.”

Monday May 06

### **Teaching the involuntary hold process and legal status to medical students and junior residents**

*Jeremiah Atkinson M.D.*

Background/purpose: The civil commitment process which merges the clinical and state legal systems can be confusing for patients and providers alike. Laws surrounding this process vary from state to state even in the

same geographical region. This is particularly true for medical trainees with brief exposure to the mental health system on their psychiatric clinical rotations. At our training institution there was no comprehensive tool for teaching this complex process.

**Methods:** Reviewed literature on emergency holds across the US. Consulted the National Alliance for Mental Illness guide for civil commitment in the authors' state. Discussed possible outcomes to include with interprofessional inpatient experts in the commitment process. **Results:** The authors created a flowchart diagram for the various stages and possible outcomes of legal processes in their state's commitment process. The flowchart includes the emergency hold process petitioning for commitment various types of commitments and additional court ordered treatments. The authors' intent for this presentation is to receive feedback on the diagram as well as to share the resource. A QR code will be included on the poster to electronically distribute the resource as a template. **Discussion:** Each state and province has its own mental health commitment laws; therefore these pathways can be used as a basic outline and model. **Conclusions:** Clearer understanding of the commitment process will improve patient care and reduce unnecessary infringement of patient autonomy.

Monday May 06

### **The effect of the motivation-based participation program for persons with Schizophrenia**

*Ay-Woan Pan Ph.D.*

**Objectives** The purpose of the study is to examine the effectiveness of three motivation-based participation programs for

persons with schizophrenia. Lack of motivation is one of the factors impeding the participation of persons with Schizophrenia (1). The programs were developed based on remotivation strategies of the Model of Human Occupation (2-3). The remotivation strategies provide guidelines to facilitate the motivational status of persons with motivational deficits. **Methods** All participated were recruited from the units of a psychiatric institute in northern Taiwan by occupational therapists. These studies were approved by IRB before the programs started. The first study adapted pre and post study design(N=10) the 2nd study used randomized control design (10 vs. 10) and the 3rd study adapted qui-experimental design(15 vs. 15). There were 812 and 8 sessions for each program. The programs run from 2 or 3 times a week. Each session lasted for 45-60 minutes. These programs were carried out by occupational therapists. The subjects were tested pre and post of the programs by different therapists. The variables assessed included volitional status PANSS PROMIS- depression anxiety sleep disturbance WHOQOL-BREF etc. T-test and linear mixed effect model were used to analyzed the dataset using SPSS 22. **Results** The results showed that there was significant decrease of negative symptom post-program for the 1st study. There was significant increase of volitional status for the 2nd program; and there were significant increase of anxiety and depression for persons in the control group for the 3rd study. There were no significant changes for the other variables across 3 studies. **Conclusions** The motivation-based participation programs demonstrated the effect to decrease negative symptoms enhance the volitional status and maintain symptoms of anxiety and depression significantly. The application in clinical practice is promising.



Monday May 06

## **The Use of Prescription Anti-Depressants and Stimulants Among U.S. Allopathic Medical Students**

*Rebecca Whitmer MS4; Rachel Cramton*

**Introduction** Existing literature reports clear elevations in depression and anxiety rates among U.S. Medical Students as well as alarmingly high suicide rates among U.S. medical trainees and physicians. While current data clearly shows increasing rates of ADD/ADHD depression and anxiety among medical students there exists a gap in data about how or if these diagnoses are being treated with prescription medication. This study aims to characterize whether students started medical school with an existing diagnosis or whether they received a new diagnosis while in medical school and whether a specific year of medical training is more prone to the development of these conditions than others. This kind of information will be incredibly valuable to institutions as they begin to recognize and create resources for students especially during at-risk times of training. **Methods** Students enrolled in a large Arizona medical school in 2022-2023 (n=150 38% MS4 31.33% MS3 15.33% MS2 and 15.33% MS1) completed a questionnaire detailing their diagnoses and pharmaceutical treatment of depression anxiety and Attention Deficit/Hyperactivity Disorder. **Results** Overall 31.3% medical students started medical school with a pre-existing diagnosis. Additionally 14.58% of those students reported receiving a second diagnosis in addition to the diagnosis they had at the start of medical school. Of the 64% of students who reported having no mental health diagnosis at the start of medical school

34.38% received a diagnosis at some point during medical school. Overall of the 150 students who completed the survey 54% either began medical school with a diagnosis or received a new diagnosis while in medical school suggesting that over half of medical students are depressed anxious or have ADD/ADHD and that nearly 35% of medical students develop these conditions during medical school. Of note 41% of students reported being prescribed a new medication for either depression anxiety or ADD/ADHD while in medical school. Additionally 17.33% of the students who began school with a pre-existing diagnosis reported being prescribed increasing doses of their medications during medical school. Overall 58.33% of students reported use of prescription medication to manage one or more of these conditions including several who reported having never received a formal diagnosis. **Conclusion** According to the SAMHSA's 2021 National Survey on Drug Use and Health 22.8% of Americans suffered from "Any Mental Illness" (AMI) and 18.8% of adults (18+) received either inpatient or outpatient mental health services prescription medication for a mental health issue or virtual (i.e. telehealth) services. As this data suggests when compared to the general population it appears medical students are twice as likely to suffer from conditions that affect their mental health and nearly three times more likely to be taking medications for these conditions.

Monday May 06

## **A Normalization and Validation of the Swedish version of the Chronotype Questionnaire 2**

*Cave Sinai MD PhD; Mikaela Alvarsson*

Objective: Whether we are morning- or evening oriented or neither is due to different chronotypes and has been suggested to play a role in our wellbeing and health. The aim of this study was to normalize and validate the Swedish version of the translated Chronotype Questionnaire 2 comprised of two dimensions; morningness-eveningness (ME) and subjective amplitude (AM). Methods: The original version of the Chronotype Questionnaire 2 (ChQ2) was translated into Swedish (ChQ2SWE) and backtranslated into Polish. 848 participants (712 women and 136 men; mean age  $44.5 \pm 12.4$ ) completed a web-survey comprised of both the ChQ2SWE and the reduced Morningness-Eveningness Questionnaire (rMEQ) serving as a validation. Results: Sample total mean score for the ME scale was  $17.3 (\pm 5.2)$  and the AM scale  $19.9 (\pm 3.8)$ . Age expressed a weak negative relationship to the ME- scale ( $r_s = -0.180$   $p < 0.001$ ) and the AM scale ( $r_s = -0.133$   $p < 0.001$ ). The ME- and AM scale ( $r_s = -0.034$   $p = 0.318$ ) expressed no correlation. Corrected inter-item correlation for the 8 items in the ME-scale shows a mean of  $0.575 [0.467- 0.713]$  and the 8 items AM scale a mean of  $0.351 [0.146- 0.487]$ . Internal reliability (Cronbach's  $\alpha$ ) for the ME scale expressed a satisfactory reliability for the total sample:  $0.840$ . The AM scale expressed a reliability of  $0.646$  and was not satisfactory. Exploratory factor analysis showed a three-factor structure with items loading between  $0.810- 0.423$ . Convergence validity was conducted using the questionnaire rMEQ whereas the ME scale indicated a strong negative correlation ( $r_s = -0.825$   $p < 0.01$ ) and the AM scale showed no correlation with the rMEQ ( $r_s = 0.077$   $p < 0.026$ ). Conclusions: Further analysis regarding psychometric properties of the AM scale is necessary. Gender correlations were compromised due to low number of male responses. Future studies

should investigate properties for external validity of the AM scale.

Monday May 06

### **A systematic review of psychotherapy interventions for reducing suicidal thoughts and behaviors in Black Youth**

*Tashalee Brown MD PhD*

Objectives Despite advancements in evidence-based treatments for youth suicide their rates of suicide continue to increase with substantial disparities in suicide attempts noted among Black youth. Evidence-based interventions developed for and tested among Black youth are urgently needed to disrupt these disparities. This systematic review summarizes current evidence-based interventions for suicidal thoughts/behaviors among Black youth and to examine how interventions have integrated therapeutic skills for coping with race/ethnicity-related stressors. Methods We searched PubMed MEDLINE and PsychINFO for articles comparing psychotherapy treatment arm with control conditions. Eligible articles were peer-reviewed RCT/pilot/quasi-experimental studies comparing the effectiveness of interventions for suicidal thoughts/behaviors study population with  $>30\%$  African American/Black youth and participants up to the age of 25. Exclusion criteria include review articles case report and series. Reporting followed PRISMA guidelines. Results The systematic search generated 751 records that were screened; of those 11 studies published from 2004 to 2021 met eligibility criteria. The 11 studies featured seven different interventions: attachment-based family therapy multisystemic therapy adapted coping with stress intervention cognitive behavioral therapy motivational

interviewing prolonged exposure therapy and mode deactivation therapy. Cultural adaptation/content of interventions were focused on discussion/training on racial/ethnic socialization. Limited language intervention characteristics and content and treatment outcomes were culturally relevant. Conclusions The lack of representation of Black youth in treatment studies and sparse literature focusing on culturally adapting treatments for Black youth continues to stall advancements to disrupt current suicide trends impacting Black youth. Only one psychotherapy intervention focused on suicide in Black youth and the remaining six psychotherapy manuals were not culturally adapted for Black youth. Cultural adaptation/content was predominantly absent or contained brief descriptions of racial/ethnic socialization. We identified opportunities for implementing cultural adaptations of suicide interventions among Black youth.

Monday May 06

### **Assessing the Effect of Outpatient Continuation Electroconvulsive Therapy (C-ECT) on the Readmission Risk and Total Direct Cost in Patients with Depre**

*PHERN CHERN TOR MBBS MMed(Psy) FAMS*

The effect of continuation/maintenance ECT (C-ECT) across mood and psychotic disorders on the readmission risk and cost is unclear.

Objective: To assess the association of outpatient C-ECT on the readmission risk and the total direct healthcare cost after completion of inpatient acute ECT.

Methods: A naturalistic retrospective cohort study of 540 patients who received inpatient acute ECT treatment from May 2017 to Mar 2021 in a large tertiary psychiatric institution was conducted. Brief Psychiatric Rating Scale

(BPRS) Montgomery-Asberg Depression Rating Scale (MADRS) Montreal Cognitive Assessment (MoCA) Global Assessment of Functioning (GAF) EQ-5D-3L utility scale (EQ-5D) and the Clinical Global Impressions Scale-Improvement (CGIS-I) were used. After completion of inpatient acute ECT patients receiving and not receiving outpatient C-ECT were compared using survival analysis for readmission risk. Hospitalisation and ECT treatment cost were used to calculate total direct cost. Results: After the first 6 sessions of inpatient acute ECT both cohorts had significant improvement in their BRPS MADRS GAF and EQ-5D scores. Patients who continued with outpatient C-ECT after acute ECT had a significantly lower risk of readmission [adjusted hazard ratio of 0.68 (95% CI: 0.49 – 0.95 p=0.022)]. Amongst patients with bipolar disorders and schizophrenia-spectrum disorders involuntary status at the index admission was associated with a lower risk of hospital readmission. Patients who received outpatient C-ECT had a significantly lower total direct cost compared to those who did not (SGD\$35259 vs SGD\$61337). Patients with mood disorders had a significantly lower inpatient ECT cost hospitalisation cost and total direct costs in the outpatient C-ECT group compared to those without outpatient C-ECT. Conclusion: ECT is a quick and effective acute treatment for mood and psychotic disorders. Outpatient C-ECT for the treatment of mood and psychotic disorders is associated with lower readmission risks and lower healthcare costs especially for patients with mood disorders

Monday May 06

### **Can Cognitive Behavioral Therapy for Insomnia Help Patients with Alcohol Use**

## **Disorder? A Systematic Review with Meta-Analysis**

*Ariella Maghen M.D.; Joshua Cho MD PhD*

**Purpose:** Research has highlighted the efficacy of Cognitive Behavioral Therapy for Insomnia (CBT-I) in improving sleep outcomes for patients with insomnia however there is still little known about the impact of insomnia behavioral therapies for patients with alcohol use disorder (AUD). Given that AUD patients with insomnia have higher rates of relapse and suicidal thoughts examining the impact of non-addictive non-pharmacological treatment methods such as CBT-I may help improve the mental health and delivery of care to this population.

**Methods:** This systematic review explored whether CBT-I improved sleep and alcohol use in patients with AUD. We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to conduct a comprehensive search from PubMed Cochrane Library and Google Scholar and the references of the identified articles for randomized controlled trials. Data was extracted from the articles and meta-analyses were conducted to calculate standardized mean differences.

**Results:** Based on an initial search result of 13 references five studies met the inclusion criteria and were included involving 306 participants. CBT-I had significant effects on sleep outcomes (SMD – 0.974; 95% confidence interval [CI] – 1.43 ?0.52; p = 0.035) but not on alcohol use (SMD – 0.006; ?0.27 0.28; p = 0.313) in patients with alcohol use disorder.

**Conclusion:** We found that CBT-I improved sleep outcomes in patients with alcohol use disorder but not alcohol use itself. While our results may be limited by the small sample of studies included in our analysis these findings may help inform the development of educational tools to improve

the sleep behavior patterns of patients with alcohol use disorder which may improve their overall mental health and quality of life. Future research should aim to explore the impact of CBT-I in patients with other substance use disorders such as cannabis use or hypnotic dependency.

**Monday May 06**

## **Childhood Maltreatment and Nonsuicidal Self-Injury: The Mediating Role of Perceived Invalidation and Depression**

*Minkyung Yim; Hayoung Kim; Yeojin Choi*

**Background:** Nonsuicidal self-injury (NSSI) is the deliberate act of harming one's own body tissues without suicidal intent. Childhood maltreatment (CM) is a significant distal risk factor for NSSI (Nock 2010). In particular CM may lead to mental health problems such as depression and subsequently escalate the likelihood of engaging in self-injurious behaviors (Brown et al. 2018). Emotional invalidation is another contextual factor that may interact with CM to increase the risk of NSSI which involves ignoring or punishing one's emotional experiences. Some recent studies on proximal risk factors in mental health problems have suggested that perceived emotional invalidation in adulthood predicts emotional distress (Schreiber & Veilleux 2022; Zielinski et al. 2023). In this study we sought to examine whether the effect of CM influences the perceived emotional invalidation in adulthood and how this emotional invalidation in turn increases the risk of engaging in NSSI behaviors.

**Methods:** Of the 2364 individuals who participated in this study 718 reported at least one incident of NSSI in the past year. All participants completed an online survey that included measures of a) type and frequency of NSSI in

the past year (Inventory of Statements About Self-injury) b) Perceived invalidation of emotion (Perceived Invalidation of Emotion Scale) c) CM (Adverse Childhood Experiences–International Questionnaire) and d) depression (Patient Health Questionnaire-9). Structural equation modeling was performed using Mplus 8.8 with goodness-of-fit indices including comparative fit index (CFI > .95) root mean square error of approximation (RMSEA < .07) and the standardized root means square (SRMR < .07). Results: The structural model showed acceptable model fit ( $\chi^2 = 1797.870$  (df = 242)  $P < 0.001$ ) CFI = 0.953 SRMR = 0.037 RMSEA = 0.052). The results indicated that the childhood maltreatment was associated with higher perceived invalidation in adulthood which in turn was correlated with increased depressive symptoms (standardized indirect effect = .206) and a higher risk of NSSI (standardized indirect effect = .034). The pathway from CM to NSSI via perceived invalidation and depression was also significant (standardized indirect effect = .091). Conclusions: This study highlights the effect of CM on perceived emotional invalidation in adulthood leading to elevated depressive symptoms and an increased risk of NSSI. To our knowledge this is the first study to examine the relationship between emotional invalidation in adulthood and NSSI. These findings also underscore the importance of addressing perceived emotional invalidation in adulthood for effective interventions particularly for individuals with a history of CM. Our results may pave the way for personalized interventions focused on improving emotion regulation and mitigating the risk of NSSI. Funding Source: NRF grant funded by the Korean government (No. 2022R1A2C2011467).

Monday May 06

### **CONNEX-X: An Extension Trial Examining the Long-term Safety of Iclepertin in Patients With Schizophrenia Who Completed Phase III CONNEX Trials**

*Corey Reuteman-Fowler; Zuzana Blahova; Stephen Marder; Satoru Ikezawa; Peter Falkai*

**Background** Cognitive impairment associated with schizophrenia (CIAS) is a core feature of the disorder and a major determinant of poor functional outcome yet no effective pharmacological treatments are available. Iclepertin (BI 425809) a glycine transporter-1 inhibitor has been shown to improve cognition in schizophrenia in Phase II trials and Phase III trials are in progress. Here we report baseline data from the CONNEX-X extension study that aims to collect additional safety data relating to iclepertin treatment in patients with CIAS who completed Phase III trials. **Methods** CONNEX-X (NCT05211947) is an ongoing multicenter multinational open label single arm extension trial in patients with CIAS who completed 26 weeks of treatment with iclepertin 10 mg or matching placebo in one of 3 Phase III CONNEX parent trials (NCT04846868 NCT04846881 NCT04860830). CONNEX-X aims to recruit ~1400 clinically stable outpatients who will be treated daily with iclepertin 10 mg for 1 year regardless of whether they previously received iclepertin or placebo. Patients are excluded if they exhibit any of the following during the parent trial and up to Visit 1 of CONNEX-X: suicidal behavior or ideation (type 5 on the Columbia-Suicide Severity Rating Scale) diagnosis with moderate/severe substance use disorder diagnosis other than schizophrenia (according to Diagnostic and Statistical Manual of Mental Disorders – 5th edition) development of any condition preventing participation a hemoglobin level



decrease (>25% or <100 g/L from baseline in parent trial) or hemoglobinopathies. The primary endpoint is occurrence of treatment-emergent adverse events. The secondary endpoints are change from baseline (CfB) in Clinical Global Impressions-Severity (CGI-S) and CfB in hemoglobin. Further efficacy endpoints include CfB in MATRICS Consensus Cognitive Battery (MCCB) overall composite T-score CfB in Schizophrenia Cognition Rating Scale (SCoRS) total score and CfB in Virtual Reality Functional Capacity Assessment Tool (VRFCAT) total times. Results In total 460 patients have been enrolled and randomized from the parent trials to date with 0% screening failures (~80% rollover rate August 30 2023). At baseline the mean (standard deviation [SD]) assessment scores (analyzed August 09 2023 n=249) were MCCB (29.5 [12.7] overall composite T-score) SCoRS (37.7 [9.8] interviewer total score) and VRFCAT (32.9 [20.8] adjusted total time). Conclusion Patient enrollment rate from parent CONNEX trials to CONNEX-X has been stable to date. This extension study will allow the examination of long-term safety and descriptive analyses of cognitive and functional endpoints of iclertin in the treatment of CIAS providing key evidence supporting its long-term use in chronic disorders such as schizophrenia. Funding: These studies are funded by Boehringer Ingelheim.

Monday May 06

### **Differences in Clinicians' Anger Experience and Expression Style Toward Suicidal Patients With and Without Trauma and Stress-Related Diagnoses**

*Jonathan Kogan; Inna Goncarencu; Anna Beneria*

Background: Suicidal patients have been shown to often elicit negative emotional responses from clinicians including anger which when present requires active management by the clinicians. Trauma and stress-related disorders have been associated with secondary traumatic stress in mental health professionals treating such patients which may contribute to clinicians' experiences of anger and its expression. The present study aimed to determine whether clinicians' experiences and expressions of anger were impacted by the presence of a trauma or stress-related disorder diagnosis in their suicidal patients with the goal of improving clinicians' anger management skills. Methods: Participants were recruited from inpatient and outpatient settings at Mount Sinai hospitals in New York City between June 2015 and May 2018. A total of 84 clinicians completed the State-Trait Anger Expression Inventory-2. Patients' diagnoses (n = 286) were collected from EPIC. An independent samples t-test was conducted to determine mean differences in clinicians' anger experience and expression styles while treating suicidal patients with and without trauma and stress-related diagnoses. Results: Independent samples t-tests showed that clinicians treating patients with trauma or stress-related disorders reported significantly higher Anger Control In (t = 2.23 \*p = 0.03) and significantly lower Anger Expression In (t = -2.44 \*p = 0.02) and Anger Control Out (t = -3.02 \*\*\*p < 0.003) compared to clinicians treating patients without these diagnoses. Contrary to our expectations clinicians' State Anger and Anger Expression Out did not significantly differ between suicidal patients with trauma and stress-related diagnoses and those without them. Conclusion: This finding suggests that clinicians treating patients with trauma or stress-related disorders might be more

attuned to the need to consciously manage their internal anger such that suppression or inward redirection of anger become unnecessary. Overall these findings suggest that the presence of trauma or stress-related diagnoses in suicidal patients can influence how clinicians experience and express anger emphasizing the necessity for clinicians training in emotional self-awareness and management of emotional responses when helping those at suicide risk.

Monday May 06

### **Economic Burden Associated with Pre-existing Substance Abuse in Patients with Negative Symptoms Schizophrenia: US Administrative Claims Data Analysis**

*Mosadoluwa Afolabi; Gideon Aweh; Keshia Maughn*

Background: Schizophrenia presents with positive and negative symptoms. Co-existing substance use disorders complicate clinical profiles worsening cognitive issues and negative symptoms. Despite antipsychotic effectiveness against positive symptoms there remains a treatment gap in managing negative symptoms schizophrenia (NSS). We examined how initial substance abuse influenced the economic burden among patients with NSS. Methods: This retrospective longitudinal observational study utilized de-identified administrative claims from STATinMED RWD Insights data (01/01/2016-09/30/2022). Included were patients with schizophrenia (International Classification of Diseases 10th Revision Clinical Modification [ICD-10-CM] code: F20.XX and NSS (ICD-10-CM: F20.5; index date=first NSS diagnosis date) during the identification period 01/01/2017-09/30/2021 aged ≥13 years at index 12-month continuous capture pre- (baseline) and post- (follow-up)

index date and evidence of baseline antipsychotic use. All patients with NSS in the baseline period were excluded. Patients were categorized based on the presence (cases) or absence (controls) of baseline substance abuse (alcohol/drug abuse diagnosis). Outcomes examined for the follow-up period included all-cause mental health (MH)- and schizophrenia-related health care resource utilization (HCRU) and costs per patient per year. Patient demographics clinical characteristics and other psychiatric and neurodevelopmental comorbidities were assessed for the baseline period. Cohorts were matched using inverse probability treatment weighting (IPTW) and Generalized Linear Models (GLMs) were performed. Results: The final sample of 5691 NSS patients included 24.6% cases. Cases were significantly younger (mean age: 44 vs 52) had higher proportion of patients insured by Medicaid (87% vs 62%) higher comorbidities including Quan-Charlson comorbidity index score (mean: 1.7 vs 1.3) depression (53% vs 22%) uncomplicated hypertension (48% vs 38%) mild liver disease (14% vs 5%) psychoses (96% vs 75%) anxiety (45% vs 21%) bipolar disorder (43% vs 17%) suicidal ideation/attempt/intentional self-harm (44% vs 8%) and trauma- and stressor-related disorders (21% vs 7%). Following IPTW cases had a significantly greater mean number inpatient admissions (8.7 vs 6.3) outpatient ER visits (5.7 vs 2.8) lower prescription counts (41.92 vs 55.04) and higher mean outpatient ER costs (\$2276 vs \$1439). GLM analysis also showed cases had higher mean number of inpatient admissions (10.5 vs 5.7) outpatient visits (22.7 vs 16.5) lower prescription counts (40.1 vs 55.6) and higher outpatient visit costs (\$12505 vs \$8722). These findings were generally consistent with MH- and schizophrenia-related HCRU and costs; however MH-related total costs were

significantly higher (\$32195 vs \$25003; all  $p < 0.05$ ). Conclusion: Baseline substance abuse increases the economic burden associated with NSS.

Monday May 06

### **Examining the Relevance of Clinical High-Risk State Subcategories in First-Episode Psychosis: Longitudinal Outcomes in an Early Intervention Sample**

*Olivier Renaud-Charest; Vincent Paquin; Jean-Gabriel Daneault; Ashok Malla; Jai Shah*

**Background:** The construct of a Clinical High-Risk (CHR) state for psychosis has been utilized to facilitate prospective identification of individuals vulnerable to developing the syndrome of a psychotic disorder. Diagnostic criteria for CHR include the experience of attenuated psychotic symptoms (APS) the experience of brief intermittent psychotic symptoms (BIPS) and the presence of trait vulnerability and functional decline. However while there is now extensive research on the differential clinical outcomes associated with these subcategories no study to date has examined the prognostic value of CHR subcategories in the full sample of individuals with a first episode of psychosis (FEP). We therefore aimed to determine the prevalence of CHR subgroups defined by APS and BIPS among FEP patients and to examine associations between these subcategories and subsequent outcome trajectories.

**Methods:** Participants with FEP were recruited from the Prevention and Early Intervention Program for Psychosis (PEPP-Montreal) a catchment-based early intervention service for psychosis. Symptoms preceding the onset of threshold-level psychotic symptoms were systematically assessed through the use of an interview-based instrument with participants (and their

relatives) and reviews of health records. Over two years of treatment and follow-up repeated measures were collected for positive negative depressive and anxiety symptoms as well as social-occupational functioning. Participants with at least one subthreshold psychotic symptom prior to FEP (consistent with a pre-onset CHR state) were further divided into the BIPS subgroup if they had experienced brief threshold-level hallucinations or delusions or the APS subgroup if they had experienced other psychotic symptoms. We then applied linear mixed models to examine associations between the retrospectively-defined CHR subcategories and outcome trajectories.

**Results:** Of the 319 patients completing all assessments 75.24% had experienced subthreshold psychotic symptoms prior to their FEP. Among these 189 (78.75%) experienced symptoms indicative of the APS subcategory and 51 (21.25%) of the BIPS subcategory. These subgroups showed no difference in clinical or functional outcome trajectories even after adjusting for the duration of untreated psychosis baseline substance use disorder or baseline diagnosis of affective psychosis.

**Conclusions:** Among a full sample of FEP patients the majority of whom had experienced subthreshold psychotic symptoms prior to psychosis retrospectively-defined CHR subcategories of APS and BIPS were not associated with distinct outcome trajectories during two years of early intervention service. Our findings suggest that the distinction between APS and BIPS subcategories becomes less relevant upon reaching FEP. Future research should endeavour to identify other pre-onset symptoms and characteristics that offer more robust prognostic value in FEP.

Monday May 06

## **Exploring the Impact of Repetitive Transcranial Magnetic Stimulation on Suicidal Ideation in Psychiatric Patients: A Systematic Review**

*Olga Lopez M.D.; Simon Kung MD; Jonathan Bock; Grace Johnson; Alison Kor*

Background: Repetitive Transcranial Magnetic Stimulation (rTMS) has been a recognized treatment for Major Depressive Disorder (MDD) since its FDA approval in 2008. While generally safe rTMS is associated with minor side effects like headaches and scalp pain at the stimulation site and in rare cases seizures with an estimated incidence of less than 1%. Notably some reports suggest a potential increase in suicidality scores following rTMS treatments. However the extent to which rTMS may exacerbate suicidal ideation (SI) necessitating psychiatric hospitalization remains unclear. Our systematic review aims to investigate this risk. Methods: Following the PROSPERO (CRD42023469248) a comprehensive search using MEDLINE Embase Cochrane Central Register of Controlled Trials Cochrane Database of Systematic Reviews Web of Science Core Collection and Scopus databases was performed on August 24 2023. The main search terms focused on rTMS and SI. Seven reviewers worked independently in pairs to screen titles and abstracts using a standardized protocol review full texts and extract data. Studies of rTMS for non-psychiatric conditions were excluded. Study characteristics rTMS parameters and any outcome of worsened suicidal ideation resulting in psychiatric hospitalization were collected. Results: From 262 abstracts initially identified 75 were included in our analysis including open label studies (36%) randomized controlled trials (33.3%) case reports (25.3%) and case series (5.3%). The

patient population predominantly (>80%) consisted of adults undergoing rTMS primarily for MDD (52%) in the outpatient setting (78.6%). Over half the studies (52%) involved patients with pre-existing SI. The majority of rTMS parameters used high frequency stimulation (53.3%) range of 1000-1999 pulses/treatment (29.33%) 120% of MT (24%) and a non-accelerated approach (70.67%) of <30 days (72%). The most common site of stimulation was the left dorsolateral prefrontal cortex (L-DLPFC) (64%). Of 3037 patients (2290 active 747 sham) a minimal percentage (n=29 0.95%) displayed an increase in SI and a smaller subset (n=14 0.46%) required psychiatric hospitalization. Conclusions: This review indicates a relatively low hospitalization rate for increased SI among psychiatric patients receiving rTMS. These findings offer reassurance regarding this specific risk for rTMS. It is important to note however that this review did not explore the potential aggravation of anxiety which could influence SI. The study's limitations include the potential underestimation of the hospitalization rate as trials where SI was not reported or non-existent were excluded. This underscores the importance of comprehensive and transparent reporting in clinical trials to fully understand the impact of rTMS on patients with psychiatric conditions.

Monday May 06

## **Hidden Barriers: Exploring Self-Disgust and Disgust with Others in Individuals with Concealed vs. Disclosed Past-Month Suicidal Ideation**

*Inna Goncarencu; Sarah Bloch-Elkouby Ph.D.*

**Background:** Research shows that over one-third of adult patients conceal suicidal thoughts from their therapists hindering clinicians' ability to prevent suicidal behavior. Therefore there is an urgent need to explore potential factors associated with patients' concealment. Feelings of disgust driven by an innate urge for cleansing and detachment have been shown to disrupt trust-building processes potentially leading individuals to withdraw from interactions and avoid displaying vulnerability by not relying on others thus potentially impeding help-seeking behavior. Furthermore self-disgust has been associated with suicidal ideation and a range of mental health disorders linked to increased suicide risk such as depression borderline personality disorders and self-harm. However to the best of our knowledge the relationships between self-disgust disgust with others and suicidal ideation concealment have not been investigated. Our study thus aimed to investigate whether individuals who acknowledge concealing suicidal ideation from their healthcare providers differ in their experience of disgust towards self and others. **Methods:** A sample of 521 community-based U.S. adults (86% cisgender women 86.9% White M age = 25.93 SD = 8.18) were recruited to complete an anonymous online survey. The severity of self-disgust and disgust with others were assessed as a part of the Acute Suicidal Affective Disturbance Inventory—Current. Participants were also asked whether they had ever denied or concealed their suicidal thoughts from healthcare providers. T-tests were conducted to identify differences in self-disgust and disgust with others between concealers and non-concealers. **Results:** Among individuals who experienced suicidal ideation within one month prior to completing the survey those who concealed it from their providers endorsed significantly higher levels

of self-disgust ( $M = 6.36$   $SD = 3.20$ ) compared to those who did not conceal it ( $M = 4.60$   $SD = 3.48$ ) ( $t = -5.126$   $df = 409$   $p < 0.001$ ). However suicidal ideation concealers did not exhibit significantly different levels of disgust of others ( $M = 4.57$   $SD = 3.68$ ) compared to non-concealers ( $M = 4.04$   $SD = 3.34$ ) ( $t = -1.421$   $df = 408$   $p = 0.156$ ). **Conclusions:** Self-disgust emerges as a critical factor associated with the disclosure of suicidal ideation to clinicians whereas the role of disgust with others may not be as prominent. These findings emphasize the importance of addressing self-disgust as a potential barrier to help-seeking for individuals struggling with suicidal thoughts. Integrating inquiries about self-disgust into suicide risk assessments may be warranted to assess for risk of possible suicidal ideation concealment.

**Monday May 06**

### **Impact of psychological factors and polysomnographic sleep parameters on paradoxical insomnia**

*So Hyun Ahn; JiHEE LEE; youngsook kwon*

**Objectives** Paradoxical insomnia characterized by a significant discrepancy between subjective and objective sleep duration remains understudied in its association with sleep and mental health. This study aims to evaluate the relationship between paradoxical insomnia and psychological factors and polysomnographic sleep parameters. **Methods** Data from 1238 individuals who visited the Sleep Center at Chungnam National University Hospital from January 2017 to December 2022 were collected. Collected information included self-reported psychological scales PSG findings and demographic characteristics. Among the initial 1238 individuals 753 individuals aged 18 years and older with ISI



scores higher than 8 were included in the analyses. The study population was categorized into paradoxical and non-paradoxical insomnia groups. The following criteria were used to define paradoxical insomnia: significant discrepancy of  $\geq 60$  minutes between subjective and objective total sleep time. Chi-square test and independent t-test was conducted to compare demographic and clinical characteristics between paradoxical and non-paradoxical insomnia group. Univariate and multivariate linear regression were employed to assess the extent to which psychological factors and PSG sleep parameters impact the subjective-objective sleep discrepancy.

**Results** A total of 753 individuals comprising of 283 with paradoxical insomnia and 470 with non-paradoxical insomnia were available for the statistical analyses. (mean age=52.9 38.9% female) Individuals with paradoxical insomnia exhibited higher ISI BDI and BAI scores along with significant differences in PSG sleep parameters (TST SE TIB stage N2 stage N3 REM AHI) compared to those with non-paradoxical insomnia. The univariate linear regression analysis showed that ISI scores ( $\beta=0.19$   $p<0.001$ ) BDI scores ( $\beta=0.08$   $p=0.034$ ) BAI scores ( $\beta=0.09$   $p=0.016$ ) TST ( $\beta=0.25$   $p<0.001$ ) SE ( $\beta=-0.03$   $p<0.001$ ) TIB ( $\beta=0.25$   $p<0.001$ ) stage N2 ( $\beta=0.21$   $p<0.001$ ) stage N3 ( $\beta=0.12$   $p=0.001$ ) REM ( $\beta=0.15$   $p<0.001$ ) were positively associated with the discrepancy between subjective and objective total sleep time. The multiple linear regression analysis showed that gender ( $\beta=-0.078$   $p=0.039$ ) ISI scores ( $\beta=0.182$   $p<0.001$ ) TIB ( $\beta=0.777$   $p=0.037$ ) and SL ( $\beta=-0.596$   $p=0.049$ ) were predictors of the discrepancy between subjective and objective total sleep time.

**Conclusion** This study suggests an association between paradoxical insomnia and self-reported psychiatric aspects as well as PSG findings.

Individuals with higher ISI scores tend to manifest more severe paradoxical insomnia indicating the need for objective sleep assessments such as PSG.

Monday May 06

### **Learning without reward: The mesolimbic system and loss of higher network features in schizophrenia**

*Elizabeth Martin M.D.*

**Introduction** Schizophrenia (SCZ) is characterized by impairments in learning and reward processing. A recent circuit-based integrative model suggested that task proficiency in SCZ results from a loss of functional network synergy between cognition and reward circuits that can be observed even when learning without reward-related contingencies. To verify this we explored a potential loss of network features in SCZ patients and controls (HC) while engaging in associative learning without reward focusing on sub-circuits for learning (hippocampus and prefrontal cortex) and reward processing (ventral tegmental area and nucleus accumbens of the mesolimbic system).

**Methods** 78 participants (45 SCZ Ages 18-50) learned associations between nine familiar objects and their locations in a two-dimensional grid while undergoing an fMRI scan. Encoding and Retrieval epochs (27s each 3s per associated pair) were separated by 27s rest periods. During Encoding objects were presented in their associated location for naming. During Retrieval participants were asked to recall the associated object by cuing each grid location in random order without feedback or reward. Time series were extracted from eight bilateral nodes across learning and reward sub-networks. For each epoch we estimated 2nd order undirected functional connectivity

(uFC zero lag correlations) for each participant creating resultant 16x16 adjacency matrices. We then computed the statistical relationship between all possible pairs of 2nd order features in each of the patient and control groups resulting in 4th order (or higher order) cross-correlation matrices to represent intragroup correlations across all pairs of network pairs. Each higher-order matrix consisted of 7140  $[(120 \times 120) - 120] / 2$  unique 4th-order correlations. The coefficients were transformed ( $r'$  Fisher 1915) and the inter-group differences in  $r'$  were normalized ( $z$ ) to investigate inter-group differences ( $qFDR < .05$ ). From the identified inter-group differences (SCZ ? HC) respective contributions of individual brain regions to the loss of higher order group network features was quantified. Results Connectomic rings were used to depict inter-group differences in higher-order features between both groups. SCZ was characterized by a massive loss of higher-order features during Encoding and Retrieval. A brain map was used to depict the relative contribution of each network node to higher-order feature loss in SCZ which revealed that nodes of the mesolimbic system were over-represented in this loss. Conclusion In schizophrenia elements of the mesolimbic system are heavily implicated the loss of synergy between cognitions and reward subcircuits even when learning without reward. The findings motivate a renewed appraisal of the relationship between reward and cognition in schizophrenia and a potential ingrained pathological process that expresses itself both through impaired cognition and reduced salience for reward.

Monday May 06

## **Mood Disorders and Aggressive Traits Mediate Effects of Reported Childhood Adversity on Suicide Attempt Risk**

*Jessica Rabbany M.D.*

Background: Childhood adversity (CA) is linked to suicidal behavior as well as to mood disorders and aggressive traits. This raises the possibility that mood disorders and aggressive traits mediate the relationship between childhood adversity and suicide risk. Moreover it is not known if mood disorders and aggressive traits operate as independent or interactive mediators. This study evaluated if and how mood disorders and aggressive traits mediate the effects of CA on future suicidal behavior. Methods: 548 participants (258 female (47.1%)) with mean age of 20.3 $\pm$ 8.2 years at baseline and last evaluated at age 26.1 $\pm$ 3.5 years. The participants are the offspring of 294 parents with mood disorders. Participants were interviewed at baseline and at yearly follow-ups (6.5 $\pm$ 3.5 years) with questionnaires assessing aggression mood disorders and suicidal behavior. Aggression was measured using the Brown Goodwin Lifetime History of Aggression (BGLHA) Scale. Mood disorders were evaluated using Structured Clinical Interview for DSM Disorders (SCID) and Kiddie Schedule for Affective Disorders and Schizophrenia (K-SAD). CA was evaluated with the Child Experiences Questionnaire Child Trauma Questionnaire Childhood and Adolescence Review of Experiences (CARE) questionnaire and the Baseline Demographic and Developmental (BDEMO) History Form. The mediation analysis involved a three-step process testing the relationships between (1) CA and attempt; (2) CA and putative mediators; and (3) putative mediators and suicide attempt adjusting for CA. Results: Data analysis showed that both sexual ( $p = .001$ ; HR = 3.59; 95% CI [1.68 7.67]) and

physical abuse ( $p = .024$ ;  $HR = 2.48$ ; 95% CI [1.13 5.46]) predict future suicide attempt. The presence of either sexual ( $p = .0001$ ) or physical abuse ( $p < .0001$ ) was associated with an increase in aggression (BGZ) of about six-tenths of a standard deviation (95% CI (sexual abuse) [0.28 0.83]; 95% CI (physical abuse) [0.33 0.81]). Results were significant for a correlation between childhood adversity aggressive trait severity and future suicide attempts. They were also significant for a correlation between childhood adversity mood disorder onset and future suicide attempts. Greater aggression severity also raised the hazard of the development of a mood disorder ( $p = 0.05$ ). However once either aggression or mood disorder is present adding the other risk factor does not increase suicide attempt risk. Conclusions: Amelioration of aggressive traits and treatment of mood disorders in CA-exposed offspring of a parent with a mood disorder may prevent future suicide attempts and may reduce the risk of developing a mood disorder. Depression and aggression mediate the relationship between CA and suicide attempts. When one mediator is present the presence of the other does not increase the hazard of a future suicide attempt. This work was supported by NIMH Grant # MH108032.

Monday May 06

### **Obstructive Sleep Apnea and Medical Comorbidities: Evidence from a Nationwide Healthcare System Data in South Korea**

*Minbi LEE; Seung-Chul Hong*

Introduction: Obstructive sleep apnea (OSA) is a breathing disorder in which a patient repeatedly stops breathing during sleep due to partial or complete airway obstruction. There has been increasing number of studies

to find that medical problems such as hypertension heart failure gastroesophageal reflux disease (GERD) and various autoimmune diseases are related to the pathophysiology of OSA. Objective: The aim of this study is to confirm the association between medical comorbidities and OSA using a large-scale epidemiological data based on nationwide healthcare system in South Korea. Methods: We conducted a nationwide population-based retrospective study using the National Health Insurance (NHI) claims database in South Korea from 2010 to 2019. The patients in the OSA group were selected based on the diagnosis with OSA according to the International Classification of Diseases 10th revision (ICD-10). The patients in control group were those who underwent appendectomy from 2010 to 2019 but had never been diagnosed with OSA before. The crude hazard ratio (HR) the adjusted hazard ratio (adjusted HR) corrected by covariates and 95% confidence interval (CI) for the effects of OSA on the incidence of the medical problems were estimated by the Cox proportional hazard ratio model. Subgroup analysis was conducted by sex and age group. Results: In total 103785 patients (86200 men and 17585 women) with OSA and 714891 patients (593762 men and 112129 women) without OSA were included. The adjusted HR for the incidence of hypertension [1.757 (95% CI 1.745-1.770)] dyslipidemia [1.587 (95% CI 1.566-1.608)] and diabetes [1.561 (95% CI 1.546-1.575)] was higher in the OSA group compared with the control group. Among comorbid diseases the prevalence of the ischemic heart disease was highest after adjusted by hypertension dyslipidemia and diabetes [adjusted HR of 2.109 (95% CI 2.088-2.130)]. Conclusion: We found that patients with OSA are at higher risk of metabolic diseases such as hypertension dyslipidemia diabetes and ischemic heart

disease. It is notable that ischemic heart disease showed the strongest association with OSA even after adjusted by metabolic components. The association with OSA and other comorbidities such as CKD and GERD was also notable. This result is remarkable as it is the first large-scale nationwide population-based study in Korea. Keywords: Obstructive sleep apnea Big data Comorbidities Metabolic disease Cardiovascular disease Chronic kidney disease Gastroesophageal reflux disease Sleep disorder

Monday May 06

### **Prior Substance Use Disorder is Associated with Higher Short-Term Social Functioning Outcomes in First-Episode Psychosis**

*Shawna Chan MD; Joseph Ventura; Keith Nuechterlein*

Background: Adults presenting with first-episode psychosis (FEP) have higher rates of co-occurring substance use disorders compared with the general population. In addition to known associations between substance use and the emergence of psychosis in genetically predisposed individuals studies have also found poorer long-term functional outcomes in those with a history of substance use. Short-term functional outcomes in this population are less well-characterized. This study evaluated the association of any prior substance disorder with premorbid social functioning and short-term social functioning in individuals with and without a prior substance use disorder in FEP. Methods: 104 adult patients with a diagnosis of schizophrenia schizoaffective disorder and schizophreniform disorder were enrolled in the UCLA Aftercare Research Program

between January 2017 and October 2022. Patients were treated through a Coordinated Specialty Care program that included both pharmacologic and psychosocial interventions. Social functioning at 0 3 6 9 and 12 months of treatment was assessed by the North American Prodrome Longitudinal Study Global Functioning Scale: Social (NAPLS-GFS) and premorbid functioning was assessed by the Cannon-Spoor Premorbid Adjustment Scale (PAS). Associations between prior substance use disorder and social functioning as well as pre-morbid functioning were calculated using one-way ANOVAs. Results: This analysis included 41 (60.6%) patients with a prior substance use disorder (mean age=23.0 83% male) and 63 (39.4%) patients without a prior substance use disorder (mean age=24.3 57% male). Those with a history of substance use disorder demonstrated a trend toward higher GFS following treatment at month 3 ( $p<0.082$ ) and significantly higher GFS at months 6 ( $p<0.046$ ) and 9 ( $p<0.044$ ). Prior substance use disorder was also associated with better premorbid sociability ( $p<0.021$ ) and premorbid peer relationships ( $p<0.034$ ) in adulthood though there were no differences in premorbid social functioning in childhood and adolescence. Conclusion: In adults with FEP a history of substance use disorder was associated with higher premorbid sociability and more peer relationships and higher short-term social functioning at 6 and 9 months of treatment. In the early course of illness the ability to access substances may reflect a degree of social connectedness thus selecting for individuals with higher premorbid social functioning. These individuals may initially have had lower biological risk for schizophrenia with a potential for a milder illness course until their psychosis was unmasked by substance use. While their higher level of social functioning

may be sustained in the short-term compared with those who develop schizophrenia in the absence of substance use timely treatment of co-occurring substance use disorders should be considered to prevent deterioration of long-term functioning. This research is funded by NIMH grant R01MH110544.

Monday May 06

### **Relationship between psychopathological symptoms and psychosocial functioning in patients with schizophrenia: a network analysis**

*Mounira Jabat*

**ABSTRACT** Background: Schizophrenia is a severe often enduring and sometimes treatment-resistant mental disorder; those affected frequently struggle to cope with the challenges of daily life. Although the relationship between Schizophrenia and disability is well established the nuances of the relationship between the symptoms and functional domains remain unclear. Methods: The current study explored the relationship between the symptoms and disability in a sample of 1127 patients with Schizophrenia. We used the Positive and Negative Symptom Scale (PANSS) and mini-ICF-APP for the assessment. We conducted a network analysis. In network models the variables are presented as nodes that are connected via edges representing undirected regularized partial correlations. The network was constructed using an “extendedBayesian information criterion” (EBIC) and the “least absolute shrinkage and selection operator” (LASSO) a regularization method implemented within a single Gaussian random field network. This minimizes false-positive findings by shrinking small correlations toward zero. We calculated the network centrality indices. To identify the

most influential nodes (i.e. items) we normalized the centrality indices and identified the index above the 95 percentile. Results: The mean PANSS score was 94.28 (27.20) and the mean mini-ICF-APP score was 25.25 (8.96) both indicative of a severe symptom load and impairment. We were able to show a strong relationship and overlap between symptoms and disability in patients with Schizophrenia. We could identify several symptoms leading to functional impairment. Deficits in judgment and abstract thinking lead to impairment through poor adherence (to routines and compliance with rules) coupled with difficulties in planning and organizing. We were able to show the crucial role of adhering to rules and routines for those affected and its role as a target of intervention and different treatment approaches. We further showed that the interplay between symptoms and functional domains in schizophrenia patients is complex and variable and mediated mainly by cognitive and thought processes. Conclusion: We consider interventions that target those symptoms (i.e. abstract thinking and judgment) and functional domains (i.e. adherence and planning) capable of reducing the symptoms and the burden of Schizophrenia.

Monday May 06

### **Sleep apnea status in patients on chronic opioid medication for pain: Base rates and impact of discontinuation of medication**

*Majd Al-Soleiti; BHANO KOLLA; Meghna Mansukhani; Wesley Gilliam*

Introduction: Opioids are commonly prescribed for chronic pain despite the paucity of controlled studies demonstrating efficacy and associated risks including addiction overdose and death. Opioids have



been shown to cause or worsen central and/or obstructive sleep apnea as well as sleep-related hypoxemia and hypoventilation. Discontinuing opioids could result in resolution and/or improvement in sleep apnea and hypoxemia. However studies demonstrating resolution and the relevant time frame for improvement are lacking. This study aimed at examining base rates types and severity of sleep apnea and oxygenation status during sleep in patients admitted to a Pain Rehabilitation Center (PRC) on opioid medication(s) and the impact of discontinuing the medication(s) on these parameters. Methods: Patients 18 years or older on opioid medication(s) were recruited at the start of their treatment at the PRC. Those with a diagnosis of heart failure with ejection fraction  $\leq 45\%$  and those using positive airway pressure or other sleep apnea treatment modalities were excluded. Demographic characteristics were obtained from the medical record. A home sleep apnea test (HSAT) utilizing the Embletta™ device was performed at admission opioid dose. In patients found to have sleep apnea i.e. a Respiratory Event Index (REI) of  $\geq 5$  events per hour a repeat HSAT was performed within 3-5 days after completion of the opioid taper. Results: The sample consisted of 13 patients (54% female 46% male) with a mean age of 54.6 years. The mean body mass index (BMI) was 27.1 kg/m<sup>2</sup>. Six patients were on concurrent benzodiazepines. The mean morphine equivalent dose at admission was 87 mg (3 patients were on  $>100$  mg) mean REI 2.95/hour mean oxyhemoglobin saturation (SpO<sub>2</sub>) 93.45% and mean SpO<sub>2</sub> nadir 75%. One patient met criteria for mild obstructive sleep apnea and 2 met criteria for mild central sleep apnea. Four patients had a repeat study after discontinuation of opioids which showed an increased REI in 3 and stable REI in 1 patient (mean REI: 3.97 pre

5.85 post). The mean SpO<sub>2</sub> increased in 3 and decreased in 1 patient. The mean SpO<sub>2</sub> nadir increased in 1 decreased in 2 and remained the same for 1 patient.

Conclusion: To our knowledge this is the first attempt to systematically examine sleep apnea and oxygenation status in patients taking prescription opioids for pain and change in these parameters after medication taper and discontinuation. Our study showed that 23% of the sample had mild obstructive or central disordered breathing at baseline and this was largely unchanged after opioid discontinuation. A larger sample and a longer follow up interval are needed to further explore the impact of opioid medication discontinuation on sleep-related breathing parameters.

**Monday May 06**

### **Suicide Ideation in Hospital Staff of a Large Urban Health System**

*Cara Faherty; Nimra Rahman BA; Chi Chan; Lauren Peccoralo; Jonathan Ripp*

Background: The prevalence of suicide ideation (SI) and subsequent risk of suicide has been shown to be greater in certain occupational groups such as health care professionals (HCPs) when compared with the general population. HCPs are at an increased risk for SI and suicide due to a highly stressful working environment stigma associated with the use of mental health services and greater access to means for completion of suicide such as medications. While several SI studies have focused on physicians there are far fewer that investigate non-physician healthcare system staff. The purpose of this study is to examine the prevalence and contributing occupational factors of suicide ideation amongst a broad group of non-physician healthcare staff.

Methods: Participants were recruited using an anonymous cross-sectional survey of non-physician healthcare staff at a large urban healthcare system between September and November 2022. A random sample of 10% of institutional staff email addresses were obtained from system leadership. We elected to use a random sample to reduce the survey burden on the workforce. The survey was distributed through email and upon completion participants were eligible for a raffle for a chance to win an Apple Watch AirPods or iPad. Non-physician healthcare workers such as nurses administrative staff research staff scientists food service staff security and others were included in the analysis. Multivariable binary logistic regression was conducted to determine the demographic mental health and workplace factors associated with SI. Results: Of the 4998 hospital system staff who were sent the survey 1398 (28.0%) responded. Of the 1084 hospital system staff with complete data included in the analysis 93 (8.6%) endorsed having passive or active SI over the past two weeks. Results of the regression indicated that screening positive for depression [odds ratio (OR) = 4.7; 95% confidence interval (CI) = 2.62-8.33  $p < .001$ ] and screening positive for anxiety [OR = 1.88; 95% CI = 1.06-3.32  $p = .03$ ] were associated with a higher odds of SI whereas greater leadership support was associated with a lower odds of SI [OR [95%CI] = .95 [.92-.98]  $p = .003$ ]. Nagelkerke R<sup>2</sup> for the model was 0.23. Relative importance analysis indicated that depression explained 36.2% anxiety explained 20.4% and leadership support explained 16.4% of the variance in SI outcome accounted for by this model. Conclusion: Based on our analysis those who screened positive for depression and anxiety were more likely to report experiencing SI. However those who indicated they had strong

leadership support were less likely to report SI. Limitations to this study include a moderate response rate and the inclusion of only one question to evaluate SI. This analysis suggests that enhancing leadership support and improving access to mental health care could be targets for interventions to help decrease the risk for SI in the healthcare workforce.

Monday May 06

### **Sulforaphane For The Treatment Of Negative Symptoms In Schizophrenia**

*Robert Smith MD PHD; Jing Huang MD; Hua Jin MD; John Davis MD; Renrong Wu MD PhD*

Background: Negative symptoms persist in many patients with schizophrenia after positive symptoms are reduced by antipsychotic medication and are associated with persistent problems in social functioning and other functional outcomes in schizophrenia. There are few established treatments for negative symptoms in schizophrenia. Oxidative stress inflammation and epigenetic modifications involving HDAC have been implicated in the pathophysiology of schizophrenia. Sulforaphane has antioxidant properties and is an HDAC inhibitor. The object of the current study was to determine the efficacy of sulforaphane in treatment negative symptoms in patients with schizophrenia who were stabilized on antipsychotics and had predominant negative symptoms. Methods: This was a randomized double-blind placebo controlled study of patients (male and female) with schizophrenia who were stabilized on antipsychotic medication and had predominant negative symptoms (PANSS negative symptoms higher than positive symptoms) in Hunan China. Patients received daily doses of either 2 (1700 mg) tablets daily

of Extra Strength Avmacol (Nutramax sulforaphane tablets glucoraphanin content 30 mg/tablet) or placebo tablets for 24 weeks. All other medication was stable thought the trial. Psychiatric symptoms were measured with PANSS scale and CGI. Side effects were assessed with TESS scale. Analysis used intent to treat mixed model analysis for symptom scores and Mann Whiney U Test for each side effect item scores. Results: 53 patients treated with sulforaphane and 24 patients treated with placebo who had a least one post intervention outcome evaluations were analyzed. Sulforaphane treated patients showed a significantly greater decrease in PANSS negative symptom total score ( $P=.01$ ) and PANSS Negative factor score ( $P=.02$ ) than placebo treated patients with the most prominent difference occurring at 24 weeks ( $P?.001$ ) with large effect size at this time point ( $d=0.8$ ). Sulforaphane's effect on decreasing negative symptoms was not mediated by change in scores of depression or cognitive factors on the PANSS. There were no significant differences between sulforaphane and placebo on change in the CGI scale. Sulforaphane was well tolerated and there were few differences between sulforaphane and placebo on items in the TESS side effect scale. Conclusions: The results of this study suggest that add-on high dose sulforaphane may significantly reduce negative symptoms in stabilized schizophrenic patients on antipsychotic medications who have predominant negative symptoms. The pronounced effect may only be seen after several months of treatment. The clinical meaningfulness of this reduction in negative symptoms needs further evaluation.

Monday May 06

## The Clinical Value of Nocturnal Sleep-Onset REM Period in the Diagnosis of Narcolepsy

*Seung-Chul Hong; Young-Chan Kim; Seung-Chul Hong*

**Objective** Currently narcolepsy diagnosis relies on the Multiple Sleep Latency Test (MSLT) with concerns about its accuracy and sustainability. In the third edition of the International Classification of Sleep Disorders Sleep-Onset Rapid Eye Movement Period (SOREMP) in Polysomnography (PSG) counts as a single SOREMP in MSLT. And there is growing recognition of the diagnostic significance of PSG SOREMP. This study compares clinical characteristics and MSLT-based diagnosis sustainability between patients with and without PSG SOREMP. **Methods** This study involved 110 patients with excessive daytime sleepiness who underwent two or more MSLTs at St. Vincent's Hospital until April 2023. Patients were categorized into PSG SOREMP ( $n=40$ ) and non-PSG SOREMP ( $n=70$ ) groups. And Sleep parameters were compared between these two groups. We also compared the MSLT-based diagnosis between the two groups and assessed the diagnosis's sustainability by analyzing the results of the second MSLT. **Results** The group with PSG SOREMP had a significantly shorter PSG REM latency (2.63 minutes  $\pm 2.48$ ) compared to the group without SOREMP (108.93 minutes  $\pm 65.34$ ). Age and sex showed no significant differences between the two groups. Additionally there were no differences in body mass index apnea-hypopnea index total sleep time sleep efficiency and REM sleep percentage. However in MSLT the PSG SOREMP group had significantly shorter mean sleep latency (1.99 minutes  $\pm 2.19$ ) shorter REM latency (2.53 minutes  $\pm 2.17$ ) and a significantly higher number of SOREMPs

(3.50±0.85). When diagnosing narcolepsy based on the criterion of two or more MSLT SOREMPs 92.5% of PSG SOREMP group patients were diagnosed in the first MSLT compared to 62.8% in the non-PSG SOREMP group. In the second MSLT 95% and 54.3% of PSG SOREMP and non-PSG SOREMP group patients received narcolepsy diagnoses. The rate of consistent diagnosis between the two MSLTs was 90% in the PSG SOREMP group and 50% in the non-PSG SOREMP group. Conclusions These results show that patients with PSG SOREMP consistently exhibited shorter mean sleep latency and a higher number of SOREMPs in MSLT resulting in over 90% receiving a narcolepsy diagnosis. This diagnosis also remained consistent in 90% of follow-up MSLTs. This suggests that PSG SOREMP may have greater diagnostic value than being considered equivalent to a single MSLT SOREMP.

Monday May 06

### **The effect of dexamethasone on testosterone levels in combat veterans with or without a history of suicide attempt**

*Leo Sher M.D.; Linda Bierer M.D.; Iouri Makotkine; Rachel Yehuda Ph.D.*

Background Combat exposure has been linked to increased risk of suicidal ideation, suicide attempts, and death by suicide. The uniqueness of the combat experience as a contributor to suicidal behavior warrants specific studies of both psychological and biological factors that may be associated with suicidality in combat veterans. Combat exposure is associated with multiple psychological and environmental factors affecting testosterone function. Suicidality has been linked with altered testosterone levels. In this study we examined morning baseline free and total testosterone levels

and the effect of dexamethasone administration on testosterone levels in male combat veterans with or without a history of suicide attempt. Methods Demographic and clinical parameters of the study participants were assessed and recorded. Study participants were interviewed using Mini-International Neuropsychiatric Interview (MINI) to determine diagnoses, the Montgomery-Åsberg Depression Rating Scale (MADRS) to assess severity of depression, the Brown-Goodwin Aggression Scale (BGAS) to examine aggression, and the Scale for Suicidal Ideation (SSI) to examine suicidal ideation. Blood samples were collected between 8:00 and 8:30 am on the day prior to and following dexamethasone (0.5mg) ingestion. Free and total testosterone levels were measured using ELISA kits. Results Suicide attempters had higher SSI scores in comparison to non-attempters. Baseline free and total testosterone levels were lower in suicide attempters compared to non-attempters. In the whole sample both baseline free and total testosterone levels negatively correlated with SSI scores. Free testosterone levels decreased after dexamethasone administration among non-attempters but not among attempters. Free testosterone post-dexamethasone levels positively correlated with BGAS scores among non-attempters but not among suicide attempters. Conclusion Our findings indicate that there are substantial differences in the testosterone regulation between combat veterans with or without a history of suicide attempt. Studies of the relation between the testosterone function and suicidal behavior among combat veterans may lead to improvement in detection of suicidality and finding new pharmacological targets for prevention of suicide among veterans. Future studies will determine whether therapeutic targeting of

testosterone dysregulation attenuates severity of suicidal ideation and thereby reduces suicide risk.

Monday May 06

### **The Relationship between Irritability and Suicide Ideation: Mediating Role of Interpretive Bias and Rumination**

*Yong Chon Park; Joonho Choi*

Background: Despite the growing body of literature indicating an association between irritability and the risk of suicide ideation the underlying mechanism linking irritability to suicide ideation remains unidentified. The aim of this study was to investigate the mediating effects of interpretive bias and rumination on the relationship between irritability and suicide ideation. Methods: Participants (mean age=29.90 80.4% male) were 102 psychiatric inpatients and outpatients who completed the questionnaires assessing irritability (Brief Irritability Test) interpretive bias (Ambiguous/Unambiguous Situations Diary) rumination (Ruminative Response Scale) and suicide ideation (Ultra-Short Suicidal Ideation Scale). The data were analyzed using regression analysis and the bootstrap sampling method. Results: Firstly irritability significantly expected suicidal ideation ( $p < 0.001$ ). Moreover rumination and not interpretive bias significantly mediated the relationship between irritability and suicide ideation (irritability?interpretive bias?suicide ideation indirect effect=0.061 Boot SE=0.050 95% CI [-0.0343 0.1636]); irritability?rumination?suicide ideation indirect effect=0.142 Boot SE=0.062 95% CI [0.0297 0.2742]). Finally interpretive bias and rumination sequentially mediated the path from irritability to suicide ideation (irritability?interpretive

bias?rumination?suicide ideation indirect effect=0.400 Boot SE=0.021 95% CI [0.0070 0.0880]). Conclusion: The results suggest that interventions aimed at preventing suicidal ideation among individuals with high irritability should address ruminative thinking. The authors received no funding for this study.

Monday May 06

### **Trends in Positive Cannabis Screen Among Patients with Schizophrenia Spectrum Disorder at an Urban Safety Net Hospital between 2015-2022**

*Hannah Brown M.D.; Amy Yule M.D.; Amelia Blanton; Amy Yule M.D.; Brittany Gouse M.D.; M.P.H.*

Introduction: Cannabis use is associated with both the development and progression of schizophrenia spectrum disorders (SSDs). The longitudinal impact of legalization of medical and recreational cannabis use and sales on rates of cannabis use among individuals with a history of psychotic illness is not well understood. In this work we examined trends in positive delta-9-tetrahydrocannabinol (THC) screens among patients with a lifetime history of psychotic illness presenting to an emergency department (ED) at an urban safety net hospital in Massachusetts. In Massachusetts cannabis was decriminalized in 2008 legalized for medical use in 2012 and legalized for recreational use in 2016. Methods: We leveraged an electronic medical record-derived dataset (ACCESS) of 8438 adult patients (? 18 years of age) with at least one outpatient or inpatient visit with a schizophrenia spectrum diagnosis billing code (defined as International Classification of Disease Code 10th edition of F20-F29) between between 2015-2022 at a large urban



safety net hospital. The final analytic sample included 3378 individuals and was restricted to ED visits with at least one screen for urinary THC during the encounter. In this subset of ED visits we examined the annual trend in the rate of ED visits with positive THC screening results. Further we estimated adjusted prevalence rates (PRs) of individuals who showed at least one positive THC screening result in each year by subgroups including age sex assigned at birth and race/ethnicity. Results: Among the 9084 ED visits included we observed a consistently increasing proportion of ED visits showing positive THC screening results between 2015 and 2022 (from 30.0% to 40.5%). In particular a sharp increase in the positive THC screening result was observed between 2016 and 2017 (from 30.1% to 35.4%). Between 2015-2022 we observed increases in adjusted PRs for patients who showed at least one positive THC screening among those aged >45 (PR 24.6% [95% CI 17.7-31.5] vs. PR 42.2% [95% CI 37.4-46.8]) males (PR 34.7% [95% CI 27.6-41.7] vs. PR 54.0% [95% CI 49.1-58.7]) non-Hispanic/Latino Black individuals (PR 36.1% [95% CI 29.3-43.3] vs. PR 53.3% [48.8-57.9]) non-Hispanic/Latino white individuals (PR 14.3% [95% CI 3.3 to 27.3] vs 35.1% [95% CI 28.2 to 42.9]). Most strata showed increases in the PRs between 2016 and 2017. Conclusions: The greatest year-to-year increase in rates of THC positive result visits and patients between 2016 to 2017 suggests that recreational legalization impacted cannabis use among individuals with SSDs. The steady increase in positive THC screens in this patient population is a major public health problem given the adverse impact of cannabis on severity of positive psychotic symptoms likelihood of relapse and long-term functional outcomes in SSDs.

Monday May 06

## **Youth Suicide Risk Assessment by Artificial Intelligence vs. Psychiatrists: A Comparative Analysis of ChatGPT-3 ChatGPT-4.5 Bard and Claude**

*Lily Nguyen B.S.; Viet Tran; Jessica Tran BS; Vivek Mathesh*

Background: Suicide is the second leading cause of death among 10–14-year-olds and the third leading cause of death among 15–24-year-olds in the United States. Despite research efforts to improve the quality of suicide risk assessments there are currently no instruments with sufficient diagnostic accuracy. While linguistic artificial-intelligence (AI) models like ChatGPT Bard and Claude have attracted much interest in the medical field their ability to serve as a clinical aid in suicide risk stratification remains unclear. Objective: To perform a comparative analysis of AI Large Language Models (LLMs) on their efficacy of assessing suicide risk in adolescents and recommending appropriate treatment setting. Methods: In Dec 2023-Jan 2024 ChatGPT-3.5 ChatGPT-4 Bard Claude and psychiatrists were asked to assess 4 hypothetical vignettes of an adolescent patient with concomitant cannabis usage with differing degrees of perceived burdensomeness and thwarted belongingness. The vignettes were presented to LLMs 10 times each. The same vignettes were distributed to psychiatrists and psychiatric residents via email in a digital survey. After each vignette LLMs and psychiatrists were asked to rate the patient's risk of attempting suicide risk of suicidal ideation psychache and resilience on a 7-point Likert scale as well as recommend treatment setting (school counselor licensed therapist primary care physician psychiatrist or psychiatric inpatient hospitalization).

Independent sample t-tests and Mann-Whitney U tests were performed to evaluate if there was a difference between assessments of suicidal risk and treatment stratification made by LLMs compared to psychiatrists. Results: ChatGPT-3.5 and ChatGPT-4 rated likelihood of suicide attempt higher than psychiatrists (n = 11) in almost all conditions (p = 0.001). Similarly ChatGPT-4 also overrated likelihood of suicidal ideation in most conditions (p < 0.01). The recommended treatment setting made by LLMs and psychiatrists differed in conditions with high perceived burdensomeness or high thwarted belongingness (p = 0.001). ChatGPT-3.5 assessed resilience lower than psychiatrists in high perceived burdensomeness conditions (p < 0.05). Bard and Claude assessed likelihood of suicide attempts suicidal ideation psychache and resilience similarly to psychiatrists. Conclusions: The findings suggest that Bard and Claude estimate suicide risk similarly to psychiatrists while both versions of ChatGPT overestimate suicide risk. LLMs tended to recommend a different treatment setting than psychiatrists particularly in severe cases which could pose a danger to critical patients seeking appropriate care. LLMs could serve as a decision-making support tool for clinicians in combination with mental healthcare practitioners. Despite clinical potential intensive follow-up studies are needed to evaluate the use of LLMs in practice.

Monday May 06

### **20 year follow- up of the TIPS study – preliminary findings**

*Melissa Weibell MBBS PhD Ass. Professor*

Background: Severe psychotic disorders are associated with substantially increased risk

of poor symptom functional and somatic outcomes. Early detection and intervention can improve chances of better outcomes. TIPS (The early Detection and Intervention in Psychosis) has collected data on an epidemiological catchment area based sample of individuals with first episode psychosis at 12 510 and now 20 years after inclusion applying a quasi-experimental design. Rogaland the experimental sector applied extensive information campaigns to increase early intervention and sectors in Denmark and Oslo Norway served as control sectors. At ten-year follow-up rates of full functional recovery were 31% vs 15% in an early compared to a usual detection health care region. The TIPS long-term follow-up study presents the one of few opportunities to assess long-term outcome in a large representative cohort. Aim: To investigate the differences in symptoms recovery and somatic health in first episode psychosis patients after 20 years between regional health care sectors with and without a comprehensive program for the early detection of psychosis. Method: The authors assessed 281 patients 18 to 65 years old with a first episode of non-affective psychosis at baseline included between 1997 and 2001. Of these 45 patients in the early-detection area (ED) and 20 patients in the usual-detection area (no-ED) were followed up at 20 years with regards to symptoms function and somatic health. Results: There was substantial selective attrition; the early detection kept more participants with high symptom levels in the study. 20% in the ED group had been continuously psychotic since inclusion vs 0% in the non-ED group. Results showed that 60% and 70% were still using antipsychotics in the no-ED and ED groups respectively. 40% were in competitive employment in both groups. 32.5% of patients in the ED group had cardiovascular

disease 25% had respiratory disease and 27.5% had metabolic disease whereas numbers were significantly lower in the non-ED group. Stable remission was achieved in 62% in the ED group rising from 52.5% at 10-year follow-up whereas in the non-ED group it decreased from 48% to 30%. Discussion: Early detection of first-episode psychosis appears to confer less deficits and improved functioning and remission across long time spans. At 10 years there was selective attrition in that more severely ill patients were retrieved in the ED sector compared to the non-ED sector. Findings over 20 years nevertheless indicate that improvements are sustained across decades.

Monday May 06

### **A Review of Antipsychotic-Induced Edema after Recent COVID-19 Infection**

*Robert Snyder D.O.; Laura Marrone M.D.*

Risperidone and antipsychotic-induced edema is a rare but possible side effect of treatment however standard workup and treatment recommendations have not yet been established outside of severe case reports and case series. Here we present a literature review inspired by a case of a patient who developed edema in the context of treatment with oral Risperidone. He was admitted to inpatient psychiatry after discrete repeated episodes of disorganization and hallucinations and he was diagnosed with schizophrenia. During the hospitalization he contracted a mild case of COVID-19.

Previously antipsychotic naive he was started on risperidone and was uptitrated to from 1mg to 8mg across three weeks and was decreased to 6mg on discharge due to tachycardia and hypotension. Following his discharge he was noted to have bilateral lower extremity pitting edema to the shin and

multiple subsequent Emergency Department evaluations for dyspnea and chest pain with tachycardia and hypotension. He was subsequently transitioned to aripiprazole and risperidone was immediately discontinued. Shortly after the transition he had reduction in edema across 2 weeks as well as decreased frequency and intensity of chest pain and dyspnea. Echocardiogram ambulatory EEG and serial medical evaluation all were performed without acute findings. A Naranjo score of 5 indicated a probable reaction to the medication. A literature search was performed to review cases of antipsychotic induced edema and investigate a possible relationship between his symptoms side effects and recent COVID-19 infection. Methods included keyword searches of “Risperidone + Edema” “Antipsychotic + Edema” and “Cardiomyopathy COVID induced differentiation.” Of these there was no comparison document and thus here we summarize synthesize and present the results of the review which were notable for differences in features concerning antipsychotic mediated edema or heart failure and COVID induced edema or heart failure and accompanying treatments and we describe the course of action taken in this case based on our query. Further investigation is needed to determine the relationship between COVID-19 and the side effects and tolerability of antipsychotic treatment and the potential underlying mechanism of antipsychotic-induced edema.

Monday May 06

### **Clinical benefit and utility of Aripiprazole once Monthly in routine Practice for Korean schizophrenia patients (CAMP)**

*Jiwan Moon; HYE RYUN YANG; Sang Won Jeon; Kang Seob Oh; Hwa-Young Lee*

Background: Antipsychotic polypharmacy is prevalent in clinical settings with an increasing adoption of long-acting injectables to alleviate side effects. Aripiprazole once monthly (AOM) offers enhanced compliance functional recovery and symptom relief yet evidence is lacking within polypharmacy. The objectives of this observational study are to investigate the clinical benefits and effectiveness of AOM within a general clinical environment. This investigation entails assessing shifts in clinical functionality alterations in psychotic symptoms and modifications in medication dosages and quantities. Methods: Participants were recruited from six sites and clinical as well as demographic data were extracted from electronic medical records (EMR) during the screening baseline 1-month 3-month 6-month 9-month and 12-month intervals with the initiation of AOM treatment serving as the baseline point. Changes of various measures including in GAF (Global Assessment of Functioning) CGI-S (Clinical Global Impression-Severity) CGI-I (Clinical Global Impression-Improvement) PANSS-6 (The Positive and Negative Syndrome Scale-6) scores as well as alterations in medication dosage and quantity over the 12-month period were analyzed. Results: Data of 85 patients were available and notable improvements were observed in key measures. The GAF score increased by 17.2% the CGI-S score decreased by 17.5% the CGI-I score decreased by 25% and the PANSS-6 total score decreased by 22% at 12 months. Particularly noteworthy was the decrease of PANSS-6 score observed as early as month 1 compared to the baseline with other scales exhibited significant improvement from month 3. At the 12-month juncture a statistically significant reduction was evident

in several medication-related aspects including the total pill count antipsychotic pill count cumulative chlorpromazine-equivalent dosage of antipsychotics benzodiazepine pill count and cumulative lorazepam-equivalent dosage of benzodiazepines. Notably the initial month saw a significant drop in both overall pill count and antipsychotic pill count and dosage. Furthermore a pronounced reduction in anticholinergic drug and beta-blocker pill counts was observed at the 12-month point compared to baseline further suggesting AOM's contribution to reducing side effects. Although 31 subjects reported adverse events no instances of serious adverse events were documented.

Conclusion: The findings of this study strongly suggest that efficacy becomes apparent early on when transitioning to AOM in patients undergoing antipsychotic polypharmacy within the routine clinical practice for schizophrenia patients in Korea. The observed improvements encompass not only enhanced functionality and amelioration of clinical symptoms but also a significant reduction in medication quantity and dosage. This study was supported by Korea Otsuka Pharmaceutical Co. Ltd.

Monday May 06

### **Correlation of Serum Cortisol Fibromyalgia Obesity and psychiatric co-morbidity**

*Miloni Shah BS; Evan Sitar B.A.; Edwin Meresh*

Background: Patients with Fibromyalgia (FM) have a disrupted hypothalamic pituitary adrenal axis (HPA) axis in which hyposecretion of cortisol may be present<sup>1</sup>. FM patients have comorbid depression anxiety and obesity<sup>2</sup>. The HPA axis for depression is hypercortisolemia which is linked to worsened quality of life<sup>3</sup>. The stress axis in FM may be exacerbated by the

presence of depression anxiety sleep problems endocrine disturbances and pain but the relationship of these factors and the cortisol link is unclear. Aim: The aim of the retrospective chart review is to analyze the neuroendocrinology of patients with FM obesity and psychiatric conditions and understand the range of cortisol serum level in patients with FM and obesity comorbid with psychiatric conditions including depression and anxiety and those without identified psychiatric co-morbidity Methods: A chart review was conducted to identify fibromyalgia patients with prior serum cortisol testing within the last ten years. Patients without serum cortisol were excluded. The reference value for cortisol serum is 2.9-19.4 Ug/DL. Data on psychiatric comorbidities as identified in the chart were gathered. Cortisol level was compared dividing the patients into 6 groups. 1: FM without identified psychiatric conditions; 2 FM with psychiatric diagnosis of adjustment disorders and insomnia; 3 FM with psychiatric diagnosis of depressive disorders; 4 FM with psychiatric diagnosis of bipolar disorders; 5 FM with psychiatric diagnosis of mixed anxiety and depression; 6 FM with psychiatric diagnosis of anxiety disorders. Results: Demographics; FM n= 64 Female: 58 Male: 5 Mean age: 63 average BMI: 38.8. The averages for serum cortisol alone for groups 1-6 respectably are 9.06 5.49 13.00 14.17 12.25 and 16.03 ug/dl. These results indicate a relatively upward cortisol serum value by addition of several psychiatric conditions most notable being anxiety for patients with FM. Discussion: It is likely that FM patients inherently have low cortisol to start with and because of chronic pain and fatigue develop depression which elevated the cortisol level. Patients with no psychiatric conditions or depression displayed a lower cortisol level compared to patients with

depression. Of all listed conditions anxiety comorbid with FM overtakes the HPA axis raising cortisol<sup>4</sup>. Conclusion: FM patients have a wide range of inflammatory cortisol serum values based on psychiatric conditions such as depression bipolar disease and anxiety. Based on these conditions anxiety has the largest impact on chronically elevated cortisol in FM. This has implications for future study on treatments which may focus on the HPA axis.

Monday May 06

### **Development of a Machine Learning Model for Predicting Adolescent Suicide Attempts Using the Korean Youth Risk Behavior Web-based Survey**

*Jiyeon Kim; Hyojeong Kim; Jaeuk Hwang*

Development of a Machine Learning Model for Predicting Adolescent Suicide Attempts Using the Korean Youth Risk Behavior Web-based Survey Abstract Objective: The assessment of youth suicide risks within educational and clinical settings holds significant importance. This study aims to address this concern by developing a robust machine learning model for predicting suicide attempts among adolescents utilizing data from the Korean Youth Risk Behavior Web-based Survey (KYRBWS). Method: The KYRBWS is an annual survey focusing on health-related behaviors among Korean middle and high school students. The 2021 KYRBWS dataset comprising 54848 participants with 1206 reporting suicide attempts was divided into training (N=43878) and test (N=10970) subsets. From the survey questionnaire 39 pertinent features were selected. Model selection was based on balanced accuracy with independent validations performed using the 2021 KYRBWS test dataset (N=10970) and an



external dataset from the 2020 KYRBWS (N=54948). Clinical implications of the model were evaluated through sensitivity specificity true prediction rate (TPR) and false prediction rate (FPR). Results: Among various models evaluated the balanced bag of histogram gradient boosting model demonstrated superior performance achieving a balanced accuracy of 0.802. This model exhibited a sensitivity of 76.24% specificity of 84.08% TPR of 10.02% and FPR of 99.20%. For the external dataset the model showed a sensitivity of 76.25% specificity of 85.32% TPR of 9.30% and FPR of 99.35%. Conclusion: The findings of this study underscore the potential of a dedicated machine learning model in accurately predicting suicide attempts among adolescents. The adoption of such a model could significantly contribute to early intervention and support strategies for at-risk individuals. The authors have no financial conflicts of interest.

**Monday May 06**

### **Does Ketamine as an adjunct anesthetic agent for ECT help with depression? A systematic review of MEDLINE**

*Katherine Kopatsis; Ayyub Imtiaz M.D.; Jake Adelman; Benedicto Borja*

Background: Low-dose ketamine originally used as an anesthetic agent is being used as an off-label therapeutic for treatment-resistant depression nowadays. Electroconvulsive therapy (ECT) has also been used in the past for depression which prompted clinicians to explore the benefit of ketamine as the preceding anesthesia for ECT conducted for depression. Studies have found little benefit with ketamine as monotherapy before ECT but these have been done with high-dose ketamine that is required

to achieve an anesthetic effect. There have not been many studies examining low-dose ketamine with the traditional ECT anesthetic agents in treating depression. In this systematic review we investigate whether the combination of ketamine with propofol before ECT is as effective as propofol alone in treating depression. Methods: A systematic search strategy using keywords was created to explore MEDLINE. A total of 61 articles were screened with 7 final articles included in study. We only wanted randomized control trials (RCTs) in English that had a direct comparison between propofol and ketamine + propofol before ECT for depression. Only articles with direct reporting of depression scores were chosen but studies in animals were excluded. Three independent reviewers examined the abstracts and selected full articles to resolve any discrepancies in selection. Results: The majority of the 7 articles showed no difference in response or remission rate of depression after ECT between the propofol only versus ketamine plus propofol groups based on depression psychometric testing scores. However one study favored propofol only and 2 studies favored ketamine adjunct to propofol before ECT for depression. Two of the studies showed better cognitive side effects profile in the ketamine plus propofol group as a secondary outcome. Based on the Grading of Recommendations Assessment Development and Evaluation (GRADE) approach the quality of evidence was deemed moderate to high as all the included studies were RCTs. The small sample sizes limited age ranges of patients significant variability in propofol dosages and ketamine dosages the number and frequency of ECT treatments and under-reporting of ECT settings in the final studies make generalizability of the conclusions difficult for all patients receiving ECT for depression.

Conclusion: Ketamine adjunct with propofol has been examined in propagating ECT efficacy in treating depression. Based on these studies it was concluded there was no significant difference between ketamine with propofol versus propofol alone before ECT in depression score ratings. In the future more studies should examine the relationship between ketamine plus propofol versus propofol preceding ECT in treating depression while accounting for the variability in dosage and number of ECT treatments.

Monday May 06

**Effectiveness of a case-managed multicomponent program for patients with severe schizophrenia compared to standard treatment. A ten-year follow-up.**

*Juan Fernandez-Miranda; Sylvia Díaz*

Background Case management is a community intervention model for people with severe mental illness. The aim of this study is to explore the treatment adherence and outcomes of patients with severe schizophrenia undergoing treatment in a community-based case-managed program (CMP) with an integrated pharmacological and psychosocial approach compared to the standard treatment in Mental Health Units (MHU). Methods An observational longitudinal study was conducted with a ten-year follow-up of patients with severe schizophrenia (Clinical Global Impression-Severity-CGI-S ? 5) treated in MHUs or in a CMP (N = 688). All the causes of the end of treatment including deaths by suicide were recorded together with the antipsychotic medication prescribed and kind of regimes (oral-OAP vs. long-acting injectable-LAI) psychiatric hospitalizations and suicide attempts over ten years. Illness severity was measured with the CGI-S. Results 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 treatment in both cases ( $p < 0.001$ ). In the MHUs 46.5% of the patients had at least one hospitalization 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 hospitalized 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 in the CMP ( $p < 0.0001$ ). Likewise taking OAPs made admission more likely to be involuntary ( $p < 0.0001$ ). Suicide attempts were significantly fewer in the CMP than in MHUs (0.07 (0.02) vs. 0.3 (0.1);  $p < 0.0001$ ). There was a significant relationship between suicide attempts and OAP treatment (vs. LAI) both in MHUs ( $p < 0.01$ ) and particularly in the CMP ( $p < 0.0001$ ). Although CGI-S scores were higher in MHUs than in 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 ( $p < 0.005$ ). Gender was not related to treatment adherence hospital admissions suicide attempts or type of antipsychotic treatment. Conclusions The significant differences between standard treatment and a case-managed program with a comprehensive integrated pharmacological and psychosocial approach regarding treatment adherence clinical severity hospital admissions and suicidal behavior allow us to consider the CMP more effective than the standard treatment provided in MHUs. Moreover treating with LAI antipsychotics clearly contributes to the achievement of these results so they should be considered much more often in these programs.

Monday May 06

### **Electroconvulsive Therapy Utilization and COVID-19 Pandemic Restrictions: A Medicare Data Analysis**

*Greg Sullivan M.D.; Kyle Homsey M.D.*

Title: Electroconvulsive Therapy Utilization and COVID-19 Pandemic Restrictions: A Medicare Data Analysis" Background: Electroconvulsive therapy (ECT) remains a vital treatment modality for individuals with refractory depression catatonia schizophrenia and bipolar disorder. The emergence of the COVID-19 pandemic posed unique challenges to healthcare systems potentially influencing the utilization of ECT services. Objective: This study aimed to assess the impact of COVID-19 mortality rates on the utilization of ECT in the United States. Methods: We conducted an analysis using data retrieved from the Centers for Medicare and Medicaid Services database to examine ECT utilization in the years preceding and following the onset of the COVID-19 pandemic. The number of ECT-treated patients was documented for each state and COVID-19 mortality data were obtained from the Centers for Disease Control and Prevention (CDC). Results: Between 2013 and 2019 the annual number of patients receiving ECT ranged from 20000 to 22000. However in 2020 amid the pandemic this number decreased to approximately 15500 reflecting an average change of 23.7% across states. Our analysis showed a positive correlation between ECT utilization and COVID-19 mortality rates on a state-by-state basis with a Pearson coefficient (R value) of 0.266 (p value 0.065). Discussion: Contrary to our initial hypothesis our findings revealed a positive association between ECT utilization and COVID-19 mortality rates. This surprising result suggests the presence of an underlying common variable possibly related to factors

such as population density robustness of healthcare infrastructure and the enforcement of COVID-19 restrictions. The implications of these findings are significant for healthcare professionals policymakers and patients when formulating future public health policies as they will need to strike a delicate balance between safeguarding against two distinct health threats. Limitations: This study's reliance on Medicare data as a marker for ECT utilization may not accurately represent rates in the general population. Studies have shown that Medicare beneficiaries were more likely to undergo ECT than Medicaid or private insurance beneficiaries. Therefore the findings should be interpreted in the context of this limitation and future research should strive to encompass a broader spectrum of the population. "

Monday May 06

### **Experiences of adult patients living with depression-related insomnia: a qualitative systematic review**

*Merete Bjerrum*

BACKGROUND: 80-90% of patients with depression are affected by insomnia. Insomnia is often treated with benzodiazepines but long-term use of benzodiazepines is not recommended due to e.g. dependency. Therefore non-pharmacological supplements or alternatives to medication are needed. Evidence of patients' experiences expectations and preferences for treatment and their perspectives regarding insomnia and its impact on daily living is important knowledge to synthesize as optimal care and treatment rely on patients' experiences and may impact treatment adherence. OBJECTIVE: Therefore the objective of this review was to

identify and synthesize the evidence on how adult patients experience living with depression-related insomnia and experience pharmacological and non-pharmacological interventions to improve sleep. **METHODS:** In June 2023 systematic searches were conducted in MEDLINE Embase CINAHL PsycINFO Cochrane Library SveMed+ Scopus and WOS using these keywords: Depressive disorder Depression Psychi\* Mental Disorders Sleep initiation and maintenance Disorders Insomnia sleep problem\* Sleep Qualitative research “qualitative study” “qualitative research” Interview focus groups Belief\* Attitude to health Experience Perspective\*. Studies published in English Danish German Norwegian & Swedish were considered and screened against inclusion criteria and critically appraised independently by two reviewers for methodological quality. Findings were pooled using meta-aggregation. **RESULTS:** In total ten qualitative studies were included. The studies were conducted in six countries. Sample sizes ranged from 4 to 37 participants. The total aggregate sample size for this review was 166. From these studies a total of 118 findings were extracted and aggregated into 11 categorized findings and three synthesized findings were generated: 1) The disruption of sleep poses a challenge to coping with everyday life by depleting both physical and mental resources; 2) Sleep is both an escape and a protective factor from suicide; 3) Patients value choices support and personalized experiences from a range of non-pharmacological approaches aimed to address insomnia in depression. **CONCLUSIONS:** This review underlines the relationship between depression-related insomnia its profound impact on individuals' lives and the value of non-pharmacological sleep interventions in addressing these issues. It reveals the physical and emotional

consequences of insomnia while emphasizing how wakefulness during night hours can exacerbate feelings of loneliness and vulnerability to negative thoughts and suicide. Moreover it provides an overview of patients' experiences and preferences of non-pharmacological approaches to address depression-related insomnia and highlights their diverse treatment experiences and preferences. Innovation Fund Denmark Protac A/S and Aarhus University Department of Public Health supported the study.

Monday May 06

### **From Cell to Clinic: A Case of Unveiling Conversion Disorder Misdiagnosis in a Patient from Rikers Island**

*Dana Abossi; Saranyan Senthelal; Dhruv Gupta MD MS*

Background: Conversion disorder also known as Functional Neurologic Syndrome categorized within the somatic symptom and related disorders in the DSM-5-TR involves the manifestation of neurologic symptoms without a plausible organic basis. Such symptoms are presumed to be an unconscious expression of underlying psychological distress which can cause significant functional impairment. However due to an absence of an underlying physiological mechanism that can account for the clinical presentation of conversion disorder it may be challenging to discriminate between conversion disorder and malingering especially in a carceral setting. While there is extensive literature on the prevalence of varied psychiatric disorders in the carceral population limited to no literature exists on the incidence assessment and treatment of conversion disorder in this setting. Case summary: We report the case of a 29-year-old Caucasian woman with a history of

polysubstance use disorder major depressive disorder generalized anxiety disorder post-traumatic stress disorder and obsessive compulsive disorder. She was brought in from Rikers Island to Elmhurst Hospital a public safety-net hospital in New York following a one-day history of worsening numbness weakness blurry vision and tingling in her bilateral lower extremities. A stroke code was activated after she had experienced a left facial droop; however neurology deemed the presentation to be non-neurological. Initial work-up including physical exam and imaging was unremarkable. Psychiatry was consulted to rule out conversion disorder vs. malingering. She was initially given a diagnosis of malingering; however her physical symptoms continued to persist. On further evaluation she shared an extensive history of childhood and adult trauma including witnessing her father's death two months prior to her symptom onset. With continued psychiatric evaluation and treatment including daily CBT her physical symptoms began to subside and a diagnosis of conversion disorder was made.

Conclusion: This case sheds light on an ethical dilemma in which individuals in carceral settings are disproportionately presumed to be malingering; however in this case this woman's presentation was due to conversion disorder. She experienced a prolonged episode of distress secondary to a misdiagnosis of malingering as timely psychiatric care and treatment were needed. It is essential to remember that malingering is a diagnosis of exclusion; as such this should be considered when working with individuals in carceral settings. They are entitled to a proper standard of care and should be evaluated through a much more comprehensive approach; involving a team of physicians across multiple disciplines who

collaborate on the best treatment and management for these patients.

Monday May 06

### **From Pillow to Podium: The Bidirectional Interplay of Sleep and Exercise**

*Jeffrey Kim M.D.; Tejasvi Kainth; Khai Tran*

Introduction: The bidirectional relationship between the effects of sleep and exercise is often underappreciated. We aim to explore the bidirectional relationship of sleep and exercise. We further discuss the prominence of poor sleep in both the athletic and general population and understand the underlying mechanisms of interdependencies between the two. The goal is to illuminate practical implications to improve both areas and optimize physical and mental health.

Methods: We conducted a systemic literature review from Pubmed Scopus and PsychINFO using the search terms: “(exercise) and (sleep)” “(exercise performance) and (sleep)” “(sleep quality) and (exercise).” We included original studies in English conducted on age groups 18 years and older. Results: Data from 31 studies shows that a significant number of athletes experience poor sleep quality and daytime sleepiness. 68.5% of Qatar Stars League soccer players and 61% of collegiate athletes in NCAA institutions report daytime fatigue several times a week. Most common causes include overtraining hectic travel schedules and sleeping in unfamiliar settings. Studies confirm athletes often sleep less before intense training or competitions. Light swimmers slept an average of 5.4 hours before training days versus 7.1 hours on rest days. Sleep deficiency may lead to reduced muscular strength and endurance mood changes increased perceived effort impaired cognitive processing and diminished motor



skills. Athletes averaging less than 8 hours of sleep nightly were 1.7 times more prone to injuries. Physiologically sleep loss alters ventilation plasma lactate concentration hormone secretion and inflammatory responses hinders muscle glycogen restoration. Extended sleep restriction decreases testosterone levels which influence muscle mass energy bone strength and more. On the contrary exercise may counter adverse metabolic impacts of sleep deprivation. High-intensity interval exercise (HIIE) has shown to nullify negative metabolic effects of sleep deprivation suggesting exercise's protective potential. Conclusion: Sleep and exercise are fundamental to maintaining physical mental emotional and spiritual health. The bidirectional interdependent relationship can be best utilized by the providers to optimize overall well being. The critical impact of adequate sleep particularly among athletes is frequently underestimated. Poor sleep can detrimentally affect performance amplify injury risks and disrupt physiological functions yet contemporary lifestyles often downplay its significance. It is important for healthcare professionals to emphasize a balanced approach to optimize these vital aspects. Continued research can offer strategies that benefit athletes and the broader populace aiming to uplift daily life functionality.

Monday May 06

### **Increased Suicide Risk After Diagnosis of Major Neurocognitive Disorder in Older Adult Inpatients: Safely Transitioning to Outpatient Care**

*Hannah Lynch; Helen Kyomen M.D.*

Background The psychological impact on a patient after being diagnosed with

dementia/major neurocognitive disorder (MNCD) is varied but studies report that patients may have feelings of anxiety and depression<sup>1-2</sup> and increased suicide risk.<sup>3-6</sup> Long term hospital stays increased during the COVID-19 pandemic.<sup>7</sup> On geropsychiatric units this allowed older adult patients to stabilize from acute psychiatric conditions so they could be evaluated for MNCD. The transition of care from inpatient to outpatient settings poses a risk for such patients newly diagnosed with MNCD since continuity of care can be lost during this process.<sup>8</sup> This project aims to provide clinical recommendations for these transitions to mitigate the increased risk of suicide in older adult inpatients who have been newly diagnosed with MNCD. Methods A literature search through PubMed was performed with a filter for articles from the past 5 years. Key search words included “dementia” “suicide risk” “major neurocognitive disorder” and “management.” Clinical protocols were reviewed. Results Due to the increased risk of suicide patients newly diagnosed with MNCD need to be monitored for suicidality between their discharge and first outpatient appointment as well as on an ongoing basis. Patients discharging from a psychiatric inpatient unit typically receive an aftercare plan often developed with a multidisciplinary team approach. Wellness checks can be part of suicide prevention interventions in the aftercare plans for older adults newly diagnosed with MNCD. Modelled after the 988 Suicide and Crisis Lifeline’s follow-up procedures a wellness check could be a phone call to the patient 24-72 hours after discharge to evaluate their suicide risk. Wellness checks can also include in-person visits by a supportive public safety agent through the local police or fire department. Suicide safety screenings with currently available suicide assessment tools that are

applicable to the geriatric population and can be modified for patients with MNCD such as the Columbia Suicide Severity Rating Scale (C-SSRS) and SAD PERSONS scale can be done during the wellness checks. Both screens can be given in person or via telemedicine. The aftercare plan should have the 988 number and a recommendation to the outpatient team to evaluate for suicidality over time. Educating the patient their caregivers and inpatient and outpatient treatment teams on the increased risk of suicide and need for suicide prevention practices after a new diagnosis of MNCD should be a priority. Conclusion Developing clinical guidelines for suicide prevention for older adult psychiatric inpatients who have been newly diagnosed with MNCD and who are transitioning to outpatient care may help reduce suicide risk in this population. Future steps include evaluating the effect of such interventions on suicidality and wellbeing in this group.

**Monday May 06**

### **Literature Review of Somatic Symptoms in Pregnant Patients Screened with the Edinburgh Postnatal Depression Scale**

*Charis Benjamin M.P.H.; Marc Kalin*

Background: Pregnancy is a time of drastic physical change which can lead to acute or chronic somatic symptoms. It is important to distinguish normative physiologic changes in pregnancy from somatic symptoms associated with perinatal depression or anxiety through screening and clinical evaluation. The Edinburgh Postnatal Depression Scale (EPDS) is widely used and validated and screens for depressive symptoms but not somatic symptoms. There is no universally endorsed screening for somatic symptoms in current obstetric or

psychiatric practice during the peripartum period. There is some evidence suggesting minority women report more somatic symptoms in depression but such evidence is not clearly defined during the perinatal period. Methods: This study focused on peer-reviewed English-written or translated publications of adult women who were pregnant and screened using the Edinburgh Postnatal Depression Scale. Articles were included with the following MeSH terms using the PubMed database assessed in September 2023: “EPDS” “depression” “somatic symptoms” and “pregnant.” Results: Eighteen articles met inclusion criteria. Article publication dates ranged from 1992 to 2022 and results were restricted to articles published after 1990. Results suggest somatic symptoms are not well captured when using the EPDS as a screening tool. This could lead to underreported symptoms of depression and anxiety. Authors identified various somatic symptoms ranging from fatigue sleep changes and appetite changes to emesis chronic pain and restlessness. Many articles called for more screening for perinatal anxiety an equally debilitating diagnosis as depression and can also present with somatic symptoms. Three articles suggested that for patients who report increased somatic symptoms during pregnancy the PHQ-9 may better capture somatic symptoms in the peripartum period and help direct early intervention with therapy. One study suggested that reporting of somatic symptoms is heavily influenced by cultural background and can lead to underreported somatic symptoms without culturally sensitive wording in follow up evaluation among minority populations. Conclusion: There was a clear pattern that the EPDS insufficiently screened for somatic symptoms alone when compared to other screening surveys. Articles concluded it is

important to conduct further diagnostic evaluation for somatic symptoms in pregnancy such as using the PHQ-9 to distinguish between somatic symptoms associated with a mood disorder or normative pregnancy symptoms.

**Monday May 06**

### **Pediatric Schizophrenia Hospitalizations: A United States Population-Based Study**

*Precious Eseaton M.B.B.S.; Adeyemi Alaga MD*

**Background** Although prior studies have examined hospitalizations of adult patients with schizophrenia and its economic burden (123) a scarcity of large national United States (U.S) population-based studies remains on hospitalizations of pediatric patients with schizophrenia. We aim to determine the most common reasons for hospitalizations and baseline characteristics of hospitalized pediatric patients with schizophrenia in the U.S. **Methods** We obtained data from the Kids' Inpatient Database the largest inpatient all-payer public pediatric database in the U.S. The 2016 Kids' Inpatient Database contains about 7 million weighted hospitalizations. We abstracted data for patients younger than 21 years of age with any diagnosis of schizophrenia using the ICD-10 code "F20". Analyses were performed using STATA16. We used a "rank" order command in STATA to arrange the most common reasons for hospitalization in descending order of frequency. We then highlighted the baseline characteristics of these hospitalizations. **Results** A total of 11512 hospitalizations had a diagnosis of schizophrenia. These patients had a mean age of 18 years were mainly males (68.4%) blacks (37.9%) and whites (36%) Medicaid insured (63.1%) and

come from households with median income for zip code less than the 26th percentile (38.7%). These hospitalizations had mean hospital length of stay (LOS) of 10 days mean total hospital charges of 37031 U.S dollars and total hospital charges of about 423 million U.S dollars. The 5 most common reasons for hospitalizations in descending order of frequency were unspecified schizophrenia (27.1%) paranoid schizophrenia (19.4%) schizophreniform disorder (4.7%) unspecified psychosis (3.6%) and other schizophrenia (2.3%).

**Conclusion** Pediatric schizophrenia hospitalizations have long LOS and significant healthcare costs. These patients were most likely to come from low-income households. They were most likely to be hospitalized due to schizophrenia and other related psychiatric conditions. Optimal outpatient management via a multidisciplinary approach involving social workers is important in reducing hospitalizations of these patients.

**Monday May 06**

### **Psychosis and Catatonia with Recent COVID-19 Infection: A Case Report**

*Caroline Nguyen; Devon Jacob*

The connection between COVID-19 infection and psychosis is an evolving topic of discussion. Physicians are still trying to understand how COVID-19 can lead to influence and impact a diagnosis of psychosis—an inherently complicated diagnosis with various etiologies. This case report describes the clinical course of a 25-year-old male who presented to the emergency department with an acute onset of paranoia visual hallucinations and delusions of unknown durations after testing positive for COVID-19 2 weeks prior to admission. He was admitted to the neurology

critical care unit neurological causes of his psychosis were ruled out and psychiatry was consulted. Initial risperidone administration resulted in symptoms of hyperactive catatonia which was then treated with a lorazepam challenge showing moderate improvement of irregular motor activity but continued agitation and hallucinations. Despite the diagnosis of catatonia delirium precautions were still taken such as maintaining day/night cycles frequent reorientation minimizing restraints and verbal redirection. First haloperidol then switched to chlorpromazine improved his disposition and communication but hallucinations and delusions persisted throughout the duration of his stay. Of note a nucleic acid amplification test was positive for active COVID-19 infection on hospital day 5 and negative on subsequent testing. Psychiatry's final impression was "schizophreniform including possible contributing residual delirium from COVID-19 or other causes" due to symptoms persisting for more than a month positive hallucinations and delusions a catatonic state and negative symptoms. This case report captures the difficulty of determining the etiology of psychosis when complicated by concurrent COVID-19 infection. It is unclear how COVID-19 impacted the diagnosis and disease course. Delirium has not been shown to be a common feature of COVID-19 infection but acute stressors have been shown to lead to the onset of schizophrenic psychosis in genetically susceptible individuals. Further research is needed to further understand the relationship between COVID-19 delirium and schizophrenia and any case of altered mental status especially when complicated by COVID-19 merits a comprehensive history and workup to fully appreciate the interaction between various disease states.

Monday May 06

### **PTSD and Suicide Risk Among South Korean Firefighters: Role of Alcohol Use Disorder and Negative Perception Toward Mental Illness.**

*Jihye Lee Clinical psychologist; Jeong Hyun Kim; Sohee Oh; Sun Young Moon; Heyeon Park*

Background : A negative perception of mental illness can deter individuals from seeking professional treatment. This often leads them to manage stress through alcohol escalating the risk of Alcohol Use Disorder(AUD). Notably AUD has a significant correlation with suicide risk surpassed only by mood disorders. Given the high prevalence of PTSD among firefighters this study aimed to examine how AUD mediates the relationship between PTSD and suicide risk and to verify the moderating effect of negative perception toward mental illness on this mediation. Methods : In April 2023 a nationwide online survey was conducted across all firefighter institutions in South Korea. Out of 64232 firefighters 52802 responded. The anonymous voluntary survey included the Post-Traumatic Stress Disorder Checklist-5(PCL-5) the Suicide Behaviors Questionnaire-Revised(SBQ-R) the Alcohol Use Disorder Identification Test-Korean(AUDIT-K) and a mental illness awareness questionnaire from the National Mental Health Knowledge and Attitude Survey by the Korean Ministry of Health and Welfare. This study applied Bootstrap verification with the SPSS PROCESS Macro. Results : Among 52802 respondents 2312 firefighters were tentatively diagnosed with PTSD using the DSM-5 diagnostic algorithm. Gender and age were controlled for in the analysis. The main results were as follows: First the findings of the correlation analysis indicated that PTSD suicide risk AUD and negative perceptions

toward mental illness were all positively correlated. Second AUD played an indirect role in partially mediating the relationship between PTSD and suicide risk ( $B = .011$   $CI = .006 \sim .016$ ). Lastly as a result of verifying the mediated moderating effect it was found that negative perceptions toward mental illness significantly regulated not only the pathway from PTSD to suicide risk but also the pathway from PTSD to suicide risk through alcohol use disorder ( $B = .001$   $CI = .0003 \sim .0015$ ). Conclusion : The research findings confirmed that AUD mediates the relationship between PTSD and suicide risk. As the severity of PTSD increases AUD also increases leading to an elevated suicide risk. Moreover it is noteworthy that negative perception toward mental illness not only enhance the impact of PTSD on suicide risk but also exacerbate its effect on AUD consequently heightening the overall suicide risk. In conclusion it can be considered crucial to improve negative perception toward mental illness in order to manage the suicide risk among individuals with PTSD. Keywords : PTSD Negative Perception Toward Mental Illness Alcohol Use Disorder Suicide

Monday May 06

### **Sleep Disturbance and its Relationship to Psychiatric Symptoms and Psychological Health and Well-being in an Outpatient Psychiatry Clinic**

*Aatman Makadia M.D.; Meghan Oswald M.D.; Mayur Patel M.D.; Naomi Dhawan*

Introduction: Our analysis was part of a larger interventional study with psychiatric outpatients to identify and treat through CBT-Insomnia sleep disturbances in the patient sample. We wanted to better understand the relationship between sleep quality and psychological symptomatology as well as

more globally the patients' psychological health and well-being (quality of life). Methods: 97 patients being treated at a large suburban medical center's outpatient psychiatry clinic were asked to complete the Pittsburgh Sleep Quality Index (PSQI; Buysse et al. 1989) as well as the Symptom Checklist-90-Revised (SCL-90-R; Derogatis & Spitzer 2000) and the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999). Sixty-one percent of participants were male 52% were Caucasian 26.5% were African American 11.2% were Hispanic/Latino 8.2% were Asian 2% were other. Only 13.3% reported taking part in a sleep study and 65.3% reported being on a sleep medication. Results: We found that worse sleep quality scores were negatively correlated with psychological health and well-being ( $r = -.30$   $p < .01$ ). Poorer sleep quality was also positively correlated with all the SCL-90-R symptom scales with the strongest correlations with somatization ( $r = .48$   $p < .01$ ) and global symptom index (GSI;  $r = .43$   $p < .01$ ). All correlations ranging with the Global PSQI and the SCL-90-R scales between correlation sizes of .48 to .21. Discussion: Our analysis further supported the use of the PSQI with outpatient psychiatry patients. The relationship between the global sleep quality index and psychological health and well-being as well as self-reported psychological symptoms underlines the importance of addressing sleep problems with patients seeking mental health treatment.

Monday May 06

### **Social Determinants of Health and Deaths by Suicide: An umbrella review of meta-analyses**

*Jaewon Lee M.D.; M.P.H.; Ha Rim Kwak M.D.; Peter Na; Dilip Jeste M.D.*



Background: More than 700000 people die by suicide every year globally according to the World Health Organization estimates in 2021. An increasing body of literature has investigated the association between social determinants of health (SDoHs) and suicidal mortality. We aimed to synthesize these extensive efforts through this umbrella review. Methods: We included meta-analyses that examined the link between specific SDoHs and deaths by suicide including suicide mortality or deaths by suicide through comprehensive searches on Embase PubMed Web of Science and PsycINFO up to June 2023. The SDoHs included are migration/refugees rurality marital status religion psychosocial job stressors air pollution ambient temperature various family and parental characteristics exposure to suicidal behaviors occupations natural disasters media reports on celebrity suicides exposure to parental suicide release from incarceration workplace violence interpersonal violence state care in childhood and the accessibility of firearms. 20 papers published between 2012 and 2023 were included. Results: Various social determinants of health were associated with increased suicide mortality when compared to non-exposure groups to those specific SDoHs. Notably exposure to suicidal behaviors including attempts and deaths by suicide (Odds Ratio [OR] 3.83; 95% CI 2.38-6.17) firearm accessibility (OR 3.24; 95% CI 2.41-4.40) financial stress (Risk Ratio [RR] 1.74; 95% CI 1.34-2.27) and unemployment (RR 1.87; 95% CI 1.50-2.34) teenage motherhood (OR 1.80; 95% CI 1.52-2.14) and single-mother households (OR 1.57; 95% CI 1.31-1.89) The lowest (RR = 1.76; 95% CI 1.42-2.17) and second lowest skilled occupations (RR = 1.32; 95% CI 1.19-1.47) compared with general working-age population an increase in ambient temperature by 7.1 °C (RR 1.09;

95% CI 1.06-1.13) were significantly associated with a heightened risk of deaths by suicide. A history of being in state care in childhood (RR 3.35; 95% CI 2.41–4.68) and experiencing the death of a parent by suicide compared to offspring with two living parents (RR 2.97; 95% CI 2.50-3.53) increased the risk of deaths by suicide as an adult. Rurality increased the risk of suicide deaths by 41% (RR 1.41; 95% CI 1.21-1.64) but only in males. Among marital statuses the OR for divorcees was 2.99 (95% CI 1.97–4.55) whereas being single was 2.44 (95% CI 2.16–2.31) and widowed was 2.16 (95% CI 1.10–4.22) compared to the married group. Immigrant status had a significant association with lower suicide mortality compared to the native group (OR 0.91; 95% CI 0.90-0.93); having a religion was significantly associated with fewer deaths by suicide (OR 0.31; 95% CI 0.14-0.72). Conclusion: Various SDoHs have been identified as significant risk factors for suicide mortality. It is crucial to identify high-risk individuals and modifiable SDoHs affecting deaths by suicide to streamline public health interventions for suicide prevention.

Monday May 06

### **Suicidal risk factors in Latinoamerican patients with Major Depression**

*Jose Alfonso Ontiveros M.D. M.Ed. M.Sc.; Ricardo Ruiz; Antonio Perez-Maya; Guillermo Sánchez Torres; Luis De La Garza Garcia Medical Undergraduate*

Background: Although Major Depressive Disorder (MDD) has a high prevalence and suicidal risk is 20 times higher in the general population studies in Latin America on factors associated with suicidal risk are scarce. Methods: We conducted a retrospective study with outpatients with

MDD (DSM-IV) from our Department of Psychiatry. Patients were required to have a complete psychiatric history MINI interview and HAMD MADRS and CGI scores. We compared sociodemographic factors and the severity of depression between patients with and without SR. Results: 602 patients were included 47.8+SD 17.37 years old (18 to 91) 388 women (64.6%) HAMD (26.4+SD5.08) MADRS (30.9+SD5.44) and CGI (4.8+SD0.78). According to the MINI 168 (27.9%) had SR 102 females (60.7%) 46.9+SD16 years old. We found no differences in age sex distribution education and severity of depression between groups of patients with and without SR. A higher risk for suicide (MINI total score) was found associated with the severity of depression (HAMD  $p=.000$  CGI-S  $p=.042$ ) and suicidal ideation on MADRS ( $p=.000$ ) and HAMD ( $p=.000$ ) scales. Furthermore patients with moderate and high scores for SR had higher severity of depression (CGI  $p=.000$ ) and on scale suicide items (MADRS  $p=.000$  HAMD  $p=.000$ ). Conclusions: We observed a similar incidence to that reported for SD (27.9%) in MD but no differences in sociodemographic and severity of depression related to SR. However in patients with SR the severity of depression (HAMD CGI) was found associated with higher SR. Our findings in Latin American patients with MDD and SR need to be replicated in further studies. Keywords: Depression suicide risk factors scales.

Monday May 06

### **The mediating role of anxiety/depression between auditory hallucination and the degree of insight in patients with schizophrenia**

*Seong Hoon Jeong M.D. Ph.D.; Sangwon Park M.D Ph.D.; In Won Chung; Yong Sik Kim*

Auditory hallucination is one of the prominent symptoms of schizophrenia causing profound distress. In one way the ego-dystonic nature of this phenomenon may help them to realize the abnormality of their experiences thus to gain insight. On the other hand the indistinguishability from reality and compelling nature of hallucinations may make patients to lose the remaining insight they may have. As such the impact of auditory hallucinations on insight seems to have a dualistic nature contingent upon other accompanying symptoms. The present study aimed to investigate the possible mediators between auditory hallucination and the degree of insight. A total of 100 patients diagnosed with schizophrenia based upon DSM-5 participated in the study. Both self-reported and clinician-rated scales were used to evaluate the hallucinatory experience and the degree of insight. The accompanying symptoms were assessed by Positive and Negative Syndrome Scale (PANSS). The complex relationships among multiple variables were envisioned as a directed acyclic graph (DAG). The skeleton of the DAG was constructed using a Gaussian Graphical Model (GGM) with the help of graphical lasso approach. Afterward we examined the validity of the obtained DAG through classical path analysis. We conducted separate analyses for both self-reported and clinician-rated scales followed by a comparison between them. The obtained DAG revealed that the PANSS anxiety-depression factor was an important mediator linking the emotional/physical aspects of auditory hallucination and the level of insight. This mediating effect was consistent across both self-reported and clinician-rated scales. The path model based upon the DAG also demonstrated a good agreement with the gathered data. Notably the PANSS negative symptom had an opposing effect on the

PANSS anxiety-depression factor and insight rendering it difficult to define its modifying effect on the connection between the two constructs. The findings of this study provide one possible route of the insight paradox. In this context the mediating role anxiety-depression modified by negative symptoms emerged as a valuable concept in clarifying the intricate relationship between auditory hallucinations and the degree of insight.

Monday May 06

### **Transcranial Magnetic Stimulation for Tobacco Cessation: A Clinically Oriented Review**

*Patrick Bidkhanian D.O.; Joffre Wong M.D.*

**Introduction** Since obtaining FDA Clearance in 2022 Transcranial Magnetic Stimulation (TMS) has been used successfully for smoking cessation. We prepared this clinical review for the opening of our community hospital's TMS clinic. **Methods** The following search terms were used in both PubMed and Web of Science on 08/24/23: 1. TMS AND Smoking (transcranial magnetic stimulation) AND Smoking 2. (transcranial magnetic stimulation) AND tobacco 3. TMS AND tobacco. Mesh terms search in Pubmed on 08/24/23: (Transcranial Magnetic Stimulation"[Mesh]) AND (("Smoking Reduction"[Mesh]) OR ("Tobacco Smoking"[Mesh]) OR ("Tobacco Use"[Mesh]) OR ("Vaping"[Mesh]) OR ("Tobacco Use Disorder"[Mesh]) OR ("Smoking Cessation"[Mesh]) OR ("Tobacco Use Cessation"[Mesh])). We extracted searches to Excel and combined them to 425 DOIs. We removed duplicates by highlighting the DOI column in Excel and using the "Remove Duplicates" button in the "Data" section removing 192 duplicates. Abstract level

screening of 236 unique DOIs was completed. Published articles in English reporting an outcome after a TMS intervention for smoking cessation were included at the abstract level. This process was repeated by two authors independently. Results After abstract level screening 41 articles remained. Excluded abstracts were reviews irrelevant or had no TMS use. Five other review articles were excluded at the full article level leaving 36 articles. **Discussion** In TMS for smoking cessation high treatment duration and intensity produced better outcomes. Successful trials had 10-56 days of treatment. Studies with 6 or fewer TMS sessions showed no significant benefit per 6 studies. At 1-month post-treatment 44% of patients sustained abstinence 33% by 6 months. Theta burst protocol did not produce smoking cessation faster than traditional TMS across 4 studies. The common target area was the dorsolateral prefrontal cortex (DLPFC). Two studies used added cognitive task to TMS with mixed results. One study added nicotine replacement therapy to TMS with positive results. The most common proposed mechanism of action was decreased insula activity across 3 studies. Three studies showed TMS can produce smoking cessation in patients with Schizophrenia. One study showed younger age shorter smoking history higher education level and Caucasian race were associated with a higher rate of smoking cessation post-TMS. Adverse effects reported were limited to headache and scalp irritation at site of stimulation. **Conclusion** TMS treatment to the DLPFC over weeks to months has produced smoking cessation. Follow-up in 1 to 6 months to assess need for further treatment is indicated. Maintenance TMS treatment for smoking cessation needs further study. This review adds to existing literature with the inclusion of 8 recent

articles not included in prior reviews on this subject. We aim to support the clinical use of TMS for smoking cessation. "

Monday May 06

### **Trends in suicide mortality rates in the Republic of Cyprus between 2004-2020: Age gender and suicide method changes.**

*Andreas Chatzittofis; Nicos Middleton; Maria Karanikola*

Background: Republic of Cyprus (RC) has the highest increase in suicide mortality in Eastern Mediterranean countries with an average annual increase of 5.1% in 2000-2019. The aim of this study was to investigate trends in suicide mortality rates between 2004-2020 in the RC with focus on age gender and suicide methods. Methods: Suicide deaths (following ICD-10 taxonomy including the code "undetermined") were obtained from the Mortality Registry and Population Denominators of the Statistical Service of the RC. Directly standardized (European Standard) mortality rates were calculated for four gender/age groups. Annual change was estimated in Poisson regression models with interaction terms to assess differential trends over time periods. Results: There were 560 suicide deaths 4-times more frequent in men; approximately 80% were classified as 'violent' in both genders. The male suicide rate doubled from 4-5 to 9-10 per 100000 with most of the increase prior to 2012 representing a 9% annual change (Rate Ratio 1.09 95% CI 1.03 1.15; p=0.002). From 2013 the trend reversed (effect modification p-value < 0.001) with 4% annual decrease (95% CI -9% 1%). Rates presented a declining trajectory from 4-5 per 100000 to 2-3 over the study period in females. Overall male-to-female suicide rate ratio was estimated at 5.33 (95%CI 3.46 8.19) in 2017-2020

compared to 2.73(1.88 3.95) in 2004-2008. Conclusion: While relatively lower compared to other European countries the gender differential in suicide mortality has widened in the RC. Further analysis of trends in relation to unemployment and other socio-economic indicators is warranted.

Monday May 06

### **Variable doses plasma levels and response relationship of one-month aripiprazole and three-month paliperidone in patients with severe schizophrenia.**

*Juan Fernandez-Miranda*

Introduction There is a need for optimizing antipsychotic treatment to know the plasmatic levels (PL) achieved with the different doses and their relationship with effectiveness and toxicity especially in patients with poor clinical evolution. Aims The objective is to know the relationship between the different doses administered in routine clinical practice (including high doses) and the PL reached of aripiprazole one-month (AOM) and paliperidone three-month (PP3M) in patients with severe schizophrenia; to find out which doses are needed to achieve therapeutic levels; and to know which PL are associated with greater effectiveness and if they imply lower tolerability safety or therapeutic adherence. Methods An observational prospective (52-week) study was conducted to follow up people with severe schizophrenia (CGI-S ? 5) receiving treatment with PP3M or AOM for at least one year (stabilized dose) (N=68). They were included in two groups: standard-dose (PP3M?525 mg/3-month or AOM?400 mg/month) and high doses (above). The PL were determined as well as their relationship with the doses administered. Adherence effectiveness and toxicity relationship with

doses and PL was evaluated. To assess effectiveness the CGI-S scale scores and the hospital admissions records were used also comparing both with the previous year. To assess toxicity adverse effects reported weight variation blood count general biochemistry and prolactin were recorded. Results The correlation between dose and PL is not strictly linear. In more than half of the subjects with standard doses high PL are reached. That is the majority of patients studied have PLs above the therapeutic range and not only those with high doses. All subjects continue in treatment regardless of the type of AP dose or PL. Clinical severity decreases more frequently in patients with high doses. Hospital admissions decrease almost exclusively in those subjects with high PL. More than 25% of the patients report some adverse effect but none is serious or involves a change in treatment. They are not higher with high doses or levels except for parkinsonism with PP3M. Laboratory test alterations occur in almost 2/3 of the patients although without severity or need to change treatment. They are not related to AP used or dose but some of them are linked to high PL. Conclusion There is no clear linear relationship between doses of AOM or PP3M and PLs in people with severe schizophrenia. Clinical improvements are related in many cases to PLs above the standard range. Taking into account that there is no linear relationship between doses and PL the effectiveness in people with severe schizophrenia of AOM and PP3M depends on reaching high PL achieved with high doses but also with standard doses in some cases. And without thereby worse treatment tolerability safety or adherence.

Monday May 06

## **A Comparative Analysis and Qualitative Study of Women's Experiences with Psychiatric Providers**

*Kristin Gill M.D.*

**Abstract** Background: Gender bias in healthcare especially in psychiatry is increasingly recognized. Women often face both over- and under-diagnosis of mental health conditions. This study analyzes perceptions of gender bias in mental health care among females sharing their experiences and perspectives. Methods: Participants from two distinct groups completed surveys on provider preferences and experiences of gender bias. Group 1 included 262 female clients from a psychiatry practice across eight states. Group 2 comprised 194 female attendees at a women's health conference. Surveys gathered demographic data including education and age to compare results between groups. Statistical analysis was completed using the chi-squared test for categorical variables. The study also employed qualitative research to address: (1) Women's experiences of gender bias in mental health. (2) The impact on access to treatment provider preference and understanding of psychiatric symptoms related to hormonal changes. Results: In Group 1 59.4% preferred female psychiatric providers; 42.2% felt misunderstood by male providers; and 47.4% felt dismissed or patronized by male providers. 51% believed medical professionals (both male and female) lacked expertise in female-specific mental health. Group 2 showed higher percentages: 64.9% preferred female providers; 61.8% felt misunderstood; 82.7% felt dismissed or patronized; and 69% cited a lack of expertise. Statistical analysis showed no significant difference in preference for female providers ( $p = 0.273$ ). However



significant differences existed in feeling misunderstood ( $p = 0.0000525$ ) being dismissed ( $p = 0.000000303$ ) and perceiving a lack of expertise ( $p = 0.000168$ ) with higher percentages in Group 2. Both groups showed over 50% preference for female providers and perceived a lack of expertise in treating female-specific mental health issues. Qualitative findings highlighted: (1) Dismissive attitudes linking femininity to emotionality; (2) Overlooking mental health issues as hormonal; (3) Insensitive gendered treatment suggestions; (4) Neglect of the interplay between women's health and mental health. Conclusion: The study highlights significant gender bias in mental health care emphasizing the need for provider education on female health issues. Addressing gender bias and improving understanding of the mental-physical health nexus in women are crucial for better psychiatric care.

Monday May 06

### **A Computerized Suicide Prevention Simulated Training for Mental Health Providers**

*Lindsay Bornheimer PhD; Nicholas Brdar BS; Juliann Li Verdugo MSW*

Background: Mental health clinicians are well-positioned to engage in suicide prevention efforts yet effective implementation of evidence-based prevention strategies depend on skill acquisition and many clinicians report feeling underprepared. Innovative computer-delivered and simulation-based clinical training is emerging in the mental health field with potential to improve the feasibility and standardization of clinical training. This study explored the acceptability feasibility and preliminary effectiveness of three suicide

prevention-focused simulations with virtual clients among clinical trainees. Methods: Student trainees ( $n=22$ ) were recruited from a Master of Social Work program and completed pre- and post- surveys about their practice knowledge of comfort in working with clients who are at risk for suicide. All trainees engaged with three simulated trainings between the pre- and post- surveys: 1) suicide risk assessment 2) safety planning and 3) motivating a client to treatment. The simulated training experiences involved a brief didactic component engagement with a simulated virtual client and evaluation of skills by a computer algorithm in relation to each simulated training topic. Quantitative data were analyzed in SPSS28 and qualitative data in Dedoose using open coding and grounded theory. Results: Participants reported simulations to be acceptable and feasible with a strong desire and need for greater suicide prevention training as part of their clinical training. Perceptions of preparedness for using skills with clients significantly improved from pre- and post-test with effect sizes calculated to be large for suicide assessment (1.11) large for safety planning (1.13) and medium for motivating to treatment (0.64) per Cohen's  $d$  with Hedges' correction. In addition simulation performance scores significantly improved from the first to third session with effect sizes calculated to be large for suicide assessment (1.27) safety planning (1.14) and motivating to treatment (1.46). Qualitative findings reinforced and expanded upon quantitative results with emerging themes of the simulated experience being realistic a good training opportunity a challenging practice experience and including helpful feedback. Conclusion: Preliminary findings suggest simulated training for clinical student trainees with virtual clients is promising and suggest the three suicide prevention

simulations may be useful scalable and effective in training programs and in mental health practice fields. Our future work will aim to investigate the effectiveness of simulations on a larger scale including comparative investigations of the virtual simulation training versus a comparable in-person training with a goal of establishing an approach to scaling and disseminating clinical trainings for other institutions and fields. This study was funded by the National Institute of Mental Health (NIMH) within the National Institutes of Health (NIH).

Monday May 06

### **A Preliminary Examination of Contemplative Design of Aquarium Exhibits on Adult Biopsychological Wellness**

*Tiffany Ho; Kia Yi Ng; Nisha Kesavan*

**Background** The value of nature has received increasing attention as the evidence base for its therapeutic effects continues to grow. The Contemplative Landscape Model (CLM) measures the quality of urban green spaces to inform landscape designs in a way that improves mental health and wellbeing of people passively exposed to them. Studies have applied CLM for visual quality assessments of urban scenes like parks gardens and residential areas yet there are currently no studies that assess the contemplativeness of urban blue spaces such as public aquariums. The present study aims to examine how elements of CLM can be applied to the public aquarium context and the relationship between contemplative elements in the aquarium and adult biopsychological wellness. **Methods** This study is part of a larger ongoing study that investigates how aquarium exhibits positively impact the emotional physical and social

wellbeing of adults children and elderly. 22 adult subjects (M=21.6 years) were exposed to an empty calibration tank then 4 selected exhibits with unique contemplative designs for 10 minutes each at an aquarium in Singapore (Open Ocean Habitat Hard Corals Shark Tank and Sea Jellies). Sensory profiles of exhibits were derived from subjects' ratings on components of the CLM. Biopsychological wellness was measured with physical biomarkers of calmness and stress heart rate (HR) and pulse shape variation (PSV) respectively while emotional wellness was measured with self-report mood and arousal. **Results** After 10-minute exposure at aquarium exhibits it was found that the significant increase in self-reported mood observed was significantly positively correlated with the diversity of species in the aquarium exhibit (N=81  $r=.301$   $p<0.01$ ). Self-reported arousal after 10-minute exposure significantly positively correlated with visibility of layers of the aquarium exhibit ( $r=.232$   $p<.05$ ) diversity of species in the exhibit ( $r=.311$   $p=0.005$ ) level of change and motion in the exhibit ( $r=.225$   $p<.05$ ) whether light and colour of exhibit looked natural and alive ( $r=.225$   $p<.05$ ) and presence of archetypal elements ( $r=.262$   $p<.05$ ). On physical biomarkers of stress the significant decrease in subject's PSV a surrogate indicator of stress was significantly positively correlated with whether light and colours of the aquarium exhibit looked natural and alive ( $r=-.281$   $p<.05$ ). Multiple linear regression analysis revealed that light and colour of exhibit ( $t=-3.363$   $p=.001$ ) compatibility of the exhibit space ( $t=2.131$   $p<.05$ ) and the degree of peace and silence at the exhibit space ( $t=2.562$   $p<.05$ ) are significant predictors of change in PSV after 5-minute exposure. **Conclusion** Emerging findings from this study provide preliminary understanding of elements in a public aquarium that may

contribute to decreased stress and calming effects from visitors exposed to its exhibits. This study was supported by S.E.A. Aquarium.

Monday May 06

### **Antenatal Psychiatric Hospitalization : Factors Associated with Newborns' Custody Under Child Protective Services (CPS)**

*Tyler Torrico M.D.*

**Background** Antenatal psychiatric illness is associated with adverse obstetric outcomes but investigations for its impact on parenting capacity are limited. Child Protective Services (CPS) contact disproportionately impacts families marginalized by poverty mental health disorders and substance use disorders. Recently there have been investigations into the significance of psychiatric illness and non-mental health-related factors that predict CPS custody arrangements. **Methods** This is a retrospective cohort study of electronic medical records over a 10-year period (2012-2021) for patients who were pregnant and psychiatrically hospitalized. This includes 81 patients (ages 18 to 43 years) who delivered within the hospital. The study endpoint was whether the newborn was placed under CPS custody. For the purposes of this study psychiatric illness was categorized by the presence or absence of psychotic symptoms. Logistic regression was utilized to investigate the associations of these demographic and clinical factors with the study outcome of CPS custody. **Results** For the entire study population 64.2% of newborns had CPS custody arrangements. In multivariate analysis after adjusting for potential confounders patients with psychotic symptoms were at increased odds of having CPS custody arrangements (odds ratio [OR]=

8.43; 95% confidence interval [95% CI] 2.16-32.85) compared with patients without psychotic symptoms. Furthermore multivariate analyses revealed that patients with a history of homelessness also had a higher risk (OR = 6.59; 95% CI: 1.24-35.13) of CPS custody arrangements for their newborns than those without a history of homelessness. **Discussion** The results of this study suggest that among pregnant and psychiatrically hospitalized patients those with psychotic symptoms are significantly more likely to have CPS custody arrangements compared to those without psychotic symptoms. However it is important to note that psychotic symptoms were not definitive for the inability to parent appropriately. In fact nearly 25% of the study population who had psychotic symptoms were able to successfully transition home with their newborns as mothers. This emphasizes the importance of optimizing the management of psychotic symptoms particularly among those who have children or plan to have children. The findings of this study also highlight the chronic impacts that those who have struggled with homelessness may experience including parenting capacity after homelessness resolves.

Monday May 06

### **Benefits of Adverse Childhood Experience (ACE) Training for Underserved-Minority Communities**

*Shana Ofori; Jason Caplan M.D.; Esai Ponce; jibril ibrahim*

Childhood adversity can profoundly impact health across the lifespan. This study aims to evaluate the efficacy of adverse childhood experiences (ACEs) and resilience training in improving understanding of trauma and coping strategies among disadvantaged

patients and future healthcare providers. Participants were medical students (n=240) and patients at a charitable medical clinic (target n=100). The Arizona Consortium for ACES 2-hour interactive training on the science of ACEs and resilience skills was delivered. Students received training as part of their academic curriculum; patients were recruited through promotional materials on-site highlighting potential psychological benefits. Both groups completed pre- and post-surveys assessing their comprehension of topics with the patient group also reporting their ACE score. Minimal risks center on potential psychological discomfort given sensitive content; options to skip portions were emphasized alongside emotional support resources. Analysis will evaluate statistical significance between pre- and post-training survey results examine correlations between patient ACE scores and understanding and compare aggregate outcomes across participant groups. Key hypotheses are that training will produce improved scores for both samples with patient participants exhibiting greater gains due to direct lived experience. Benefits include deeper insight into trauma for patients and expanded perspective for future physicians. Protecting confidentiality is paramount; no identifying information is collected data access is restricted storage meets university security protocols. Results may guide refinement of trauma/resilience programming for vulnerable groups. Overall this study uniquely extends ACEs education research by assessing multi-level impact across those with higher pre-existing exposure alongside relatively more privileged students entering healthcare. This project is funded by the APAF Helping Hands grant.

Monday May 06

## Changes in rate and pattern of suicide attempts after COVID-19

*BORAM CHAE; Ho-Kyoung Yoon*

Changes in rate and pattern of suicide attempts after COVID-19 Objective: Employing a time-series analysis we investigated the patterns of suicide attempts among patients at Korea University Ansan Hospital's emergency room from 2020 to 2023 focusing on understanding any shifts and trends especially considering the impact of the COVID-19 pandemic. Method: Monthly records of emergency room visits concerning suicide attempts and self-harm incidents were collected from Korea University Ansan Hospital covering the period from 2018 to 2023. Patient data were stratified into three age groups: under 18 19 to 59 and 60 and above. Result: During the pandemic in 2020 and 2021 the number of emergency room admissions for suicide attempts or self-harm increased by 18.8% to 570 cases in 2023. While adults (19-59 years) and the elderly (60 years and above) showed a consistent monthly rise adolescents (10-19 years) displayed significant monthly variations. In January 2023 the incidence was 2.25 times higher (RR=?2.25 95% CI=?1.69–2.85). March witnessed a 1.6-fold increase (RR=?1.60 95% CI=?1.23–1.97) April demonstrated a 2.75-fold surge (RR=?2.75 95% CI=?2.02–3.47) and May saw a 2.67-fold rise (RR=?2.67 95% CI=?1.99–3.34). November experienced a 3.5-fold increase (RR=?3.50 95% CI=?2.56–4.44). In contrast February indicated a 43% decrease (RR=?0.57 95% CI=?0.34–0.80) July showed a 50% reduction (RR=?0.50 95% CI=?0.14–0.86) and August exhibited a 47% decline (RR=?0.53 CI=?0.31–0.76). Conclusion : In the post-COVID-19 period there has been a general upsurge in suicide rates. While there is relatively little variation

observed throughout the year in other age groups the incidence rate among teenagers exhibits an upward trend during the academic semester after COVID-19. It is crucial to thoroughly comprehend and address this pattern to effectively manage the risk of suicide.

Monday May 06

### **Comparing safety indices for commonly used antidepressants shows certain tricyclic antidepressants have lower complication rates than bupropion**

*Zachary Poliacoff*

**Background:** A common concern when prescribing antidepressants to treat depression is the risk of toxic exposure. However there have been no recent US studies assessing the rate of serious complications from antidepressant overdoses that adjust for the rate at which these agents are prescribed in the population. This study combines two large national datasets to create measures that can help compare the risk of serious complications and death resulting from toxic exposure between commonly prescribed antidepressants. **Methods:** Yearly summary data on toxic exposures from the National Poison Data System's annual reports was combined with national prescription data collected by the Medical Expenditure Panel Survey to create a dataset representing the number of prescriptions major adverse events and deaths resulting from single drug exposures for each of the included antidepressants between 2013-2020. Drugs were included if they were classified as either a SSRI SNRI DNRI or TCA and had individual entries in both datasets. 291775 single drug exposures over 1594675429 prescriptions were analyzed. Multi-drug exposures were not

included. Intention could not be analyzed. The fatal toxicity index (FTI; deaths / 100000 prescriptions) and serious morbidity index (SMI; major adverse effects / 100000 prescriptions) were calculated for each drug. 95% confidence intervals (CI) were constructed using a Poisson distribution. Agents were compared within their class. Bupropion was used as a standard. In cases where statistical significance was not clear by comparing CIs a chi-square test was used. The false discovery rate was controlled for using the Benjamini-Hochberg method with the false discovery level set at 0.05. **Results:** There was a statistically significant difference between all TCAs' FTI and SMI ( $p = 0.21$ ) though both had a lower SMI ( $p < 0.00001$ ). CIs for amitriptyline and doxepin's FTI and SMI were both significantly greater than bupropion's. There was a statistically significant difference between all SSRIs' FTI and SMI ( $p = 0.045$   $p < 0.00001$ ) though the former was not statistically significant after correction. CIs for both measures were lower for all SSRIs than bupropion's. Escitalopram's FTI and SMI were both lower than citalopram ( $p = 0.048$   $p < 0.00001$ ) though the former was not significant after correction. Duloxetine's FTI and SMI were significantly lower than venlafaxine's ( $p < 0.0001$ ). Venlafaxine's FTI and SMI were significantly lower than bupropion's ( $p < 0.01$ ). **Conclusion:** There is considerable heterogeneity within antidepressant classes in terms of safety profiles. Imipramine and nortriptyline have favorable safety profiles compared to bupropion and to other TCAs. All SSRIs and SNRIs compare favorably to bupropion and all TCAs on all measures.

Monday May 06

### **Coping Mechanisms and Their Associations with Depression and Anxiety**



## **Among Healthcare Staff in the Aftermath of the COVID-19 Pandemic**

*Nimra Rahman BA; Cara Faherty; Chi Chan; Uraina Clark; Nihal Mohamed*

Background: Healthcare workers (HCWs) experience considerable stress from significant workload staff shortages and poor physical health. Coping is a major factor in an individual's emotional adjustment to stress (i.e. depression and anxiety) and can be reflected through diverse strategies tactics responses and behaviors. This study investigated coping strategies used by non-physician healthcare staff and the association of such strategies with depression and anxiety in the aftermath of the COVID-19 pandemic. Methods: The study population was recruited from a random sample of 4999 non-physician healthcare staff at a large New York City urban health system between September-November 2022. Participants were sent an anonymous survey electronically via email which included standardized measures including the PHQ-2 GAD-2 and Brief COPE to measure depression anxiety and coping strategies respectively. Nurses administrative staff research staff scientists food service personnel security officers and others were included in the analysis. Exploratory factor analysis of the Brief COPE and logistic regression analysis were conducted to determine the relationship between different types of coping strategies and mental health symptoms. Results: Of the 4999 hospital system staff who were sent the survey 1398 responded and 1172 (28%) completed all of the items for this analysis. Exploratory factor analyses of the Brief COPE revealed a four-factor solution that explained 61.9% of the variance. These factors represent social support avoidance substance use and active coping strategies. Logistic regression

analyses controlling for demographic variables revealed that greater odds of screening positive for depression was associated with avoidance coping (odds ratio [OR] (95% confidence interval [CI])=3.92 (2.91-5.29)  $p < .001$ ) and substance use coping (OR (95% CI)=1.39 (1.00-1.90)  $p = .049$ ). Controlling for demographic variables greater odds of screening positive for anxiety was associated with social coping OR (95% CI)=1.59 (1.22-2.08)  $p = .001$  and avoidance coping OR (95% CI)=2.81 (2.15-3.67)  $p < .001$ . Conclusion: Our analyses revealed that whereas coping by avoiding was associated with both depression and anxiety coping by substance use was more specific to depression and coping by social support was more specific to anxiety. Limitations included a moderate response rate and cross-sectional design which precludes making causal inference. The unique associations between depression anxiety and substance use with social support coping suggest potential targets for interventions that on coping strategies to prevent or reduce depression and anxiety.

Monday May 06

## **Dilemmas of the Digital Age: Medical Student Attitudes Related to Therapy Assistance Online and the Digitalization of Mental Health Services**

*John Free MSN RN; Blake Harp M.B.A.*

Introduction: The most recent psychiatric research observed that up to 90% of medical students experience stress. One systematic review even found that nearly one in two medical students experience burnout before beginning their residency programs. Coping methods to handle emotional turmoil and acute stressors are under significant investigation. Many medical schools across

the country offer their students online resources to promote self-care and prioritize student wellness. One such program Therapy Assistance Online (TAO) is a web-based resource aimed to help students overcome anxiety depression and other mental health concerns. However medical students' usage of TAO has yet to be explored. This quantitative descriptive study was designed to elicit the attitudes of medical students on utilizing TAO for mental health support. Methodology: Data were collected using an anonymous 11-item questionnaire that was available to first-year (MS1) and second-year (MS2) medical students at Texas Tech University Health Sciences Center (TTUHSC) between January 2nd-14th 2023. This survey was created with guidance from the medical school faculty and derived from themes identified in previous studies. Five-point Likert scales were used to evaluate attitudes toward facets of online mental health platforms. Only complete surveys were used for statistical analysis. All of the medical students took this survey voluntarily and results were reported in aggregate without identifying information. Descriptive statistics and graphs were generated through Qualtrics software. Results: The survey received 233 responses; 64.7% of the MS1/MS2 cohort elected to respond. Of those 61 (26.2%) students reported seeking mental health support during medical school. 29 (12.5%) reported using online resources for mental health support other than or in addition to TAO while 23 (9.9%) reported previous use of TAO. Of those students who used TAO 12 (52.2%) found TAO to be helpful or held a neutral opinion. Discussion: We found that only 10% of pre-clinical students at TTUHSC had used Therapy Assistance Online and almost half of these participants did not find it helpful. Over one-third of participants agreed there is a stigma attached to students

seeking mental health assistance; nevertheless two-thirds reported they would prefer face-to-face sessions over an online platform for mental health support. Only one-quarter of respondents agreed that online self-help programs like TAO effectively respond to the mental health needs of students. Conclusion: Medical schools must ensure students have mental healthcare resources they find useful. Despite increasing reliance on online programs in education more generally mental health resources that allow face-to-face interactions may yet be valued most among users. In any case medical schools must promote and ensure easy access to therapy options and communicate clearly that students will remain anonymous with any care they seek out.

Monday May 06

### **ECT Outcomes in Patients with Depression: A Large Naturalistic Study at a Tertiary Center**

*Shane Berger; Simon Kung MD; Maria Lapid*

Background: Electroconvulsive therapy (ECT) is widely considered to be the most effective treatment for severe depression. A recent meta-analysis of ECT response and remission in major depression showed particular effectiveness in patients with psychotic features and in the elderly. ECT has also been shown to be more efficacious than transcranial magnetic stimulation (TMS) and ketamine. The aim of this study was to investigate recent ECT outcomes for depression at a large tertiary center. Methods: Data was obtained from Mayo Clinic Rochester on all patients aged 18+ who received ECT over a 10-year timeframe 3/1/2013-2/28/2023. Patients were included if there was a diagnosis of a depressive

disorder (either unipolar bipolar or schizoaffective disorder) and there was a Patient Health Questionnaire-9 (PHQ-9) within 90 days prior to starting ECT and within 180 days after ECT. Only the first acute course of ECT was counted. Patients were excluded if they received less than 3 ECTs had a beginning PHQ-9 score less than 10 had a comorbid diagnosis of psychotic disorder (other than schizoaffective) or dementia or did not give research authorization. The age sex number of acute course treatments and lead placement were collected. Response (75% reduction in PHQ-9) and remission (final PHQ-9 <5) rates were calculated. Paired t-test was performed on baseline and end PHQ-9 scores. Linear regression was performed on the change in PHQ-9 scores with age sex number of treatments and lead placement as independent variables. Logistic regression was performed on response and remission categories using the same independent variables. BlueSky Statistics 10.3.1 (Chicago IL) was used and statistical significance defined as  $p < 0.05$ . Results: Of 1817 who were initially identified only 398 met final inclusion and exclusion criteria. The overall response rate was 74.9% ( $n=298$ ) and remission rate was 49.7% ( $n=198$ ). The mean ( $\pm$ SD) PHQ-9 score prior to first ECT treatment was  $20.18 \pm 4.61$ . The mean ( $\pm$ SD) ending PHQ-9 score was  $6.59 \pm 6.56$  (paired t-test  $p < 0.001$ ). Linear regression for change in PHQ-9 scores showed no statistically significant differences using age sex number of treatments and lead placement. Logistic regression for response showed age as a statistically significant predictor with a 1.92% higher odds of achieving response with each additional year of age ( $p=0.0105$ ). When controlling for sex older age was still a statistically significant (OR 1.0190  $p=0.0115$ ) predictor of response. There were no statistically significant predictors for

remission. Conclusion: Our results affirm the high efficacy of ECT in severe depression. No other established treatment for depression can report a response rate as high as 75% in a naturalistic study. Our results support that older patients achieve response more than younger patients. With increased awareness of TMS and ketamine this study highlights the continued relevance and place of ECT for severe depression.

Monday May 06

### **Evaluating Stress and Burnout in Medical School Administrative Staff: A Survey study in a California Allopathic Medical School**

*Jonathan Shaw; Peter Bota; Charles Lai; Jonathan Townsend; Deborah Wright*

Background: While Burnout in Healthcare is a major issue currently there has been limited research on the well-being of the support and administrative workers that are a crucial part of the medical system. The literature on medical school administrative staff (MSAS) burnout is further complicated by different definitions of "staff" which can also encompass faculty and medical staff. This study aims to provide some insights into the various stressors MSAS face by examining the prevalence of and correlations between burnout factors in MSAS at a California allopathic medical school. Methods: 120 MSAS employees defined as employees in non-curricular roles were contacted anonymously via email list to participate in this study. Two identical survey rounds were sent on February 8th and March 8th 2023 with each form remaining open for responses for 4 weeks. Each survey was broken into 3 sections containing respectively a 13-question proprietary perception scale 2 questions from the 2021 AAMC Staff Engagement Survey and 3 proprietary

questions about MSAS-specific aspects of their work and the 19-question-long Copenhagen Burnout Inventory (CBI). Due to privacy and retaliation concerns no demographic questions were included. Results: The Kolmogorov-Smirnov test indicated that the CBI Client-related ( $p = .083$ ) Work-related ( $p = .189$ ) and Personal ( $p = .082$ ) burnout scores are normally distributed unlike all of the proprietary data. No significant differences between survey rounds was found in either the One-Way ANOVA of Personal ( $p = .654$ ) Work-related ( $p = .354$ ) and Client-related ( $p = .272$ ) subscales or the Kruskal-Wallis tests of proprietary question responses. Personal and Work-related ( $r(41) = .891$   $p < .001$ ) Personal and Client-related ( $r(41) = .692$   $p < .001$ ) and Work-related and Client-related burnout scores ( $r(41) = .831$   $p < .001$ ) were found to correlate by Pearson's correlation. Multiple of the proprietary questions were found to correlate by Spearman's correlation. The means for the Personal (57.1) and Work (53.4) indicated burnout (CBI cutoff is score  $\geq 50$ ) whereas the Client subscale mean is much less (42.4) albeit the sample size is too small to be conclusive. Conclusions: In light of limited burnout research on MSAS this study provides valuable insights on the prevalence of burnout in medical school administration. In particular the unusually high level of Personal and Work-related burnout among MSAS implies that the high levels of stress in healthcare may have as much to do with systemic and cultural factors as with the inherent stress of medical work. The consistent correlations and distinctions in subscales indicate that burnout is a lasting issue that need to be solved with plans tailored to each role and situation. Especially given the wide variety of MSAS roles tailored interventions are crucial in supporting this

essential but overlooked portion of the medical school and healthcare workforce.

Monday May 06

### **Examining the role of social support in the relationship between traumatic events and depressive symptoms in a cohort of postpartum women**

*Adriana Bruges-Boude M.D.; Juliana Castro; Anna-Sophie Rommel; Margaret McClure*

Background: Pregnancy and the postpartum period are characterized by physiological and psychological changes and increased risk for depressive episodes. Traumatic life events are one of the most important risk factors for depressive symptoms. The stress-buffering model suggests that social support can protect against negative mental health outcomes and help maintain overall well-being during pregnancy and the postpartum period even following stressful life events. Despite advances in trauma research most studies to date do not include pregnant persons and often exclude those who do not meet full post-traumatic stress disorder criteria. We aim to address gaps in the literature by exploring how perceived social support during the postpartum period can affect the relationship between traumatic life events specifically unwanted physical and sexual abuse and postpartum depression symptoms. Methods: Participants with diverse backgrounds were enrolled in the Generation C-SF cohort (current  $n=430$  target  $N=500$ ) a New York City-based prospective pregnancy cohort. At three months postpartum participants completed the Trauma History Questionnaire (THQ  $M=2.51$   $SD=3.03$ ) the Interpersonal Support Evaluation List (ISEL  $M=9.17$   $SD=1.72$ ) and Edinburgh Postnatal Depression Scale (EPDS  $M=5.27$   $SD=4.41$ ). In this analysis we only

included participants who completed all questionnaires. The ISEL contains three subscales: perceived availability of appraisal (advice or guidance) belonging (empathy acceptance concern) and tangible social support (help or assistance such as material or financial aid). The scores from the ISEL subscales were combined into a total ISEL score. Higher ISEL scores indicate greater levels of social support. Higher THQ and EPDS scores indicate more trauma and depressive symptoms respectively. We used a mediation analysis to examine the effect of traumatic life events on postpartum depression symptoms with social support as a mediator. Results: We found significant total ( $\beta=1.19$   $t=2.92$   $p=0.0046$ ) and direct ( $\beta=0.86$   $t=2.14$   $p=0.0351$ ) effects of traumatic life events on postpartum depression symptoms. The indirect effect mediated through social support was not significant ( $\beta=0.09$   $CI=-0.002; 0.2172$ ). Conclusion: The findings further support the role of traumatic events as a risk factor for postpartum depression symptoms. However our findings do not support our hypothesis that perceived social support (appraisal belonging and tangible) may act as a mediator between traumatic life events and postpartum depression symptoms. Clinicians should assess the patient's history of trauma and consider interventions other than social support to help with depression symptoms in the perinatal period among those at risk

Monday May 06

**Food for thought and for clinician training:  
Association between clinician's emotional  
responses to suicidal patients and the  
therapeutic alliance**

*Martina Sobrero MD; Rawad El Hayek M.D.*

Introduction: Recent research shows that clinicians often struggle with negative emotional responses towards suicidal patients. This can affect the working alliance which is critically important for effective treatment delivery and subsequently treatment outcome. The purpose of this study was to explore associations between negative emotional state variables in the clinician clinician's perception of the working alliance and patients' severity of suicidal ideation (SI). Methods: Clinicians and patients from both inpatient and outpatient units at a hospital in New York City completed a set of questionnaires after their first clinical encounter. Clinician participants filled out the State and Trait Anxiety Inventory (N=852) State Trait Anger Expression Inventory (N=860) and the Working Alliance Inventory scales (N=842) evaluating state anxiety anger and the clinician's perception of therapeutic alliance respectively. Patient participants completed the Columbia-Suicide Severity Rating Scale (CSSRS) to assess the severity of SI over the past month (N=624). Spearman Rho correlations and linear regression were calculated to quantify the relationships. Results: We found a negative correlation of moderate effect size between the clinician's WAI Bond and clinician's state anger (-.435) and anxiety (-.483) and of small effect size between patient's CSSRS prior month SI (-.128). In linear regression both state anxiety and anger had significant independent and negative associations with the clinician's perception of the therapeutic alliance while suicidal ideation did not retain significance. Conclusion: Clinician's perceived bond with the patient is associated with both their emotional state and the patient's severity of SI. Moreover clinician's emotional state may account for the impact of SI on perceived bond. This finding suggests that clinicians may benefit from training in emotional self-



awareness and management when working with suicidal patients.

Monday May 06

### **Inflammatory Predictors of Postpartum Anxiety: Findings from a Prospective NYC Pregnancy Cohort**

*Carly Kaplan; Anna-Sophie Rommel; Frederieke Gigase*

**Background:** Previous studies have implicated inflammation in the pathogenesis of both depression and anxiety. However less research has examined how this relationship applies during and after pregnancy a period of large-scale immunological changes. Though some studies have examined the effect of maternal immune activation on postpartum depression and found an association between elevated prenatal inflammatory cytokines (particularly IL-1 $\beta$  and IL-6) and postpartum depression the relationship between pregnancy cytokines and postpartum anxiety has not been thoroughly explored. **Methods:** We included 716 participants from Generation C a prospective pregnancy cohort (recruited from April 2020-February 2022). All adult pregnant patients receiving obstetric care at the Mount Sinai Health System in New York City were eligible for participation. Anxiety symptoms were assessed 1-8 months postpartum via the Generalized Anxiety Disorder (GAD) questionnaire. Cytokine levels were measured in blood from routine draws throughout pregnancy. Using quantile regressions the relationship between mean cytokine levels (log-transformed) and continuously measured postpartum anxiety symptoms was investigated separately for 4 cytokines (IL-6 IL-17A IL-1 $\beta$  and CRP). Quantile regressions were adjusted for maternal age race/ethnicity education parity

SARS-CoV-2 infection status during pregnancy time since April 2020 and GAD assessment timing. **Results:** Participants' mean age was 32.99 (SD=4.91) and 327 individuals (45.67%) were white 192 (26.82%) Hispanic 85 (11.87%) Black and 74 (10.34%) were Asian. Mean GAD score was 2.89 (SD=3.64) and 43 (6%) participants scored above the clinical cutoff ( $\geq 10$ ) for moderate/high anxiety. After adjustment IL-17A was significantly associated with increased GAD score at the 75% quantile (b=0.70 SE=0.24 p=0.004). IL-6 and IL-1 $\beta$  exhibited a positively trending correlation at the 75% quantile and 50% quantile respectively though the correlation was not significant. CRP was not significantly associated with postpartum anxiety. **Conclusion:** These preliminary findings suggest a link between pregnancy inflammation and postpartum anxiety among those experiencing the highest anxiety symptoms. While specific mechanisms require further exploration these findings add to the larger conversation surrounding the hypothesized role of maternal immune activation in postpartum mood disorders. Future research may examine the possibility of capitalizing on this link to aid clinicians in identifying women at elevated biological risk for postpartum mood disorders.

Monday May 06

### **Intimate Partner Violence Victimization and PTSD Cluster Symptomology in the U.S. Army**

*Paul Kim; Farifteh Duffy; Lyndon Riviere*

**Introduction** Marked by abuse or aggression in a romantic relationship intimate partner violence (IPV) causes psychological and physical damage to spouses and partners. Past studies report that military couples

experience IPV at higher rates and severity compared to their civilian counterparts. Although mental disorders such as post-traumatic stress disorder (PTSD) have been associated with IPV perpetration among military couples it is unclear how IPV victimhood is associated with the symptom clusters that constitute a PTSD diagnosis. Additionally little is known about the degree to which men and women in the military are differentially traumatized by IPV with respect to PTSD symptom clusters. **Methods** Sample data come from active duty soldiers from three large U.S. Army installations. A total of 1394 participants completed a questionnaire in 2018-2019 as part of a behavioral health study. The research was approved by the IRB at the Walter Reed Army Institute of Research. All participants reported being currently married or in a relationship. PTSD symptom clusters were measured using the PTSD Checklist for DSM-5 (PCL-5). DSM-5 guidelines were used to determine which participants screened positive for each criterion. Intimate partner violence was measured using the HITS Scale which is a 4-item scale used to identify victims of IPV. Summed scores of 11 or higher for women and 12 or higher for men were used as cutoffs. Logistic regression analyses were conducted to estimate the effects of gender IPV and the gender by IPV interaction on each of the 4 symptom criteria with combat deployment history as a control. **Results** IPV prevalence was 3.7% (n=48). The prevalence of intrusion avoidance negative cognition/mood and alterations in arousal/reactivity were 16.4% 12.7% 14.9% and 18.2% respectively. IPV increased the odds of reporting alterations in arousal/reactivity by 6-fold (95% CI [3.46 11.3]) over 5-fold for negative alterations in mood (95% CI [3.13 10.21]) nearly 5-fold for avoidance (95% CI [2.62 8.91]) and over 7-fold

for intrusion (95% CI [4.21 13.78]) after adjusting for deployment history. The sex by IPV interaction was significant for the avoidance cluster only ( $\beta = -2.39$  SE = 1.15  $p = 0.038$ ) indicating that males reported significantly higher avoidance symptoms than females when reporting IPV. **Discussion** IPV prevalence among Army personnel was higher than recent studies have previously reported although this may be attributed to self-report data. IPV victimization was significantly associated with each symptom cluster particularly for intrusion. Males were differentially impacted by avoidance symptoms which is similar to findings from a recent civilian study of trauma. Future studies should examine these relationships longitudinally to better understand the causal direction. This study was supported by Military Operational Medicine Research Program.

Monday May 06

### **Linking Objective Socioeconomic Status and Satisfaction with Life: Mediating Roles of Subjective Social Status and Negative Attitudes toward Self**

*Gyumyoung Kim; Hayoung Bae*

Background: Lower objective socioeconomic status (SES) has been identified as a risk factor for satisfaction with life (SWL) (Thomson et al. 2022). However it has been suggested that multiple factors are involved in the pathway from objective SES to SWL. A meta-analysis (Tan et al. 2020) found that subjective social status (SSS) defined as individuals' perceptions of themselves relative to others mediates the association between objective SES and SWL. In addition social comparison leads to negative attitudes toward oneself which may explain the association between SSS and psychological

well-being (McCarthy & Morina 2020). To further clarify the psychosocial mechanism between objective SES and SWL our study examined the mediating role of SSS and negative attitudes toward oneself in this association. Methods: We recruited 1300 adults (890 females at birth) aged 18 - 59 (M = 35.45). Participants completed an online survey including an assessment of household income the MacArthur Scale of Subjective Social Status the Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) and the Satisfaction with Life Scale (SWLS). A structural equation model (SEM) estimated the direct and indirect effects of objective SES on SWL using maximum likelihood with the following variables: (1) objective SES as indicated by household income (2) SSS (3) negative attitudes toward oneself as measured by the FSCRS and (4) SWL. All mediation effects were examined by the bootstrapping procedure (10000 times) which provides 95% confidence intervals. Analyses were conducted using Mplus 8.8 with all statistically significant thresholds set at  $P < .001$ . Results: The model showed good fit indices (CFI = .996 RMSEA = .044 and SRMR = .012). Results indicated that the association between objective SES and SWL was fully mediated by SSS and negative attitudes toward self (standardized indirect effect = 0.02  $P = 0.12$  standardized direct effect = 0.13). Both SSS (standardized direct effect = 0.45) and negative attitudes toward self (standardized direct effect = -0.34) were significantly associated with SWL. In indirect effect models SSS significantly mediated the relationship between objective SES and SWL (standardized indirect effect = 0.09) whereas the indirect effect of negative attitudes toward self between SSS and SWL was insignificant (standardized indirect effect = 0.00  $P = 0.92$ ). Both SSS and negative

attitudes toward self significantly mediated the relationship between objective SES and SWL (standardized indirect effect = 0.03). Conclusions: Objective SES affects SWL through the mediating pathways of SSS and negative attitudes toward oneself. This study provides the rationale for interventions targeting psychosocial factors that may buffer the associations between SES and SWL. This research was supported by the Brain Research Program of the National Research Foundation (NRF) funded by the Korean government (MSIT) (No. NRF-2022R1A2C2011467).

Monday May 06

### **Mental Health Coping and Protective Factors in Mothers of Children with 22q11.2 Deletion Syndrome: The Role of Maladaptive Coping Methods**

*Haley McBride; Carrie Bearden; Nandini Jhawar; Wendy Kates; Sarah Woolf-King*

Background: Compared to the large body of mental health research on children with 22q11.2 Deletion Syndrome (22q11DS) and maternal mental health for other pediatric disorders we know far less about the experience of mothers of children with 22q11DS. Understanding the mental health of this population is especially important because parent mental health symptoms are associated with behavioral and neurodevelopmental outcomes in children. Previous investigations suggest associations between stress anxiety and depression in parents and behavior problems in children with 22q11DS as well as the importance of maternal adaptive coping strategies. The present study attempts to further investigate the mental health coping methods and protective factors of mothers of children with 22q11DS. Methods: An international sample

of 71 mothers (M = 40.5 years) of children with 22q11DS (M = 9.2 years) completed an online REDCap survey assessing maternal mental health (symptoms of depression anxiety traumatic stress stress and alcohol consumption) coping methods (adaptive and maladaptive factors based on principal component analysis) and mental health protective factors (social support dyadic adjustment parenting competence). Maternal ratings of child mental health symptoms parent and child demographics and child clinical information were also obtained. Results: Compared to previous prevalence data mothers in our sample reported higher levels of perceived stress (69%) traumatic stress (33.8%) hazardous alcohol consumption (30.9%) anxiety (26.8%) and depression (26.8%). Mothers rated their child with 22q11DS as exceeding the instrument cutoff threshold for internalizing symptoms (32.4%) attention problems (28.2%) and externalizing symptoms (19.7%). Five separate hierarchical linear regressions predicting maternal mental health symptoms were conducted for depression anxiety traumatic stress stress and alcohol use. After controlling for demographic variables and child mental health symptoms maternal self-reported maladaptive coping methods were positively associated with maternal symptoms of depression ( $r = .457$   $p = .004$ ) anxiety ( $r = .381$   $p = .018$ ) stress ( $r = .586$   $p = .000$ ) and traumatic stress ( $r = .537$   $p = .001$ ). Conclusion: Mothers of children with 22q11DS reported high levels of multiple mental health symptoms. Only maladaptive coping methods were significantly correlated with maternal symptoms of depression anxiety stress and traumatic stress. Interventions to reduce the use of maladaptive coping methods may alleviate mental health symptoms in mothers of children with 22q11DS. Better screening for

maternal mental health and the presence of avoidant coping are important to consider. Addressing parent mental health as part of the child with 22q11DS' pediatric care would be ideal for increasing engagement with mental health care.

Monday May 06

### **Patient Characteristics and Treatment Patterns of Individuals with Posttraumatic Stress Disorder in the Veterans Affairs Administration System**

*Mona Nili; Joseph Magagnoli; Marianne Laouri; Tammy Cummings; Scott Sutton*

Background: Posttraumatic stress disorder (PTSD) is a severe often chronic and disabling condition that arises in some individuals following a traumatic event. This study aims to evaluate the clinical and demographic characteristics treatment patterns and health care and resource utilization (HCRU) of individuals with PTSD within the Veterans Affairs (VA) Administration system. Methods: This retrospective cohort study used VA system claims in the VA Informatics and Computing Infrastructure (VINCI) from January 2000 to July 2022. Adults diagnosed with PTSD based on ICD-9/10 codes were included. The index date was the first documented PTSD claim. Inclusion criteria involved adults with at least six months of enrollment prior to index date. The study cohort was followed until the earliest occurrence of last VA activity death or July 31 2022. Descriptive analyses were used for demographics clinical characteristics treatment patterns and healthcare utilization HCRU. Results: The study included 1087260 individuals (mean age=51.6; 92.0% male). Some of the most common comorbidities include obesity [BMI >30] (42.3%) substance use (19.8%) anxiety (18.5%) diabetes (18.0%)

chronic pulmonary diseases (9.4%) and sleep disorders (6.9%). In the post-index period 41.7% used antidepressants and 20.5% used antipsychotics. Trazodone and sertraline were the most prevalent medications in the first-year of post-index period. Social workers internal medicine physicians and psychologists were the main healthcare providers engaged in diagnosing and treating PTSD. Psychotherapy interventions were recorded for 17.8% during the pre-index and 51.7% during the post-index period. The mean number of mental health clinic visits per year was 6.1 while the mean number of psychotherapy sessions per year was 2.0. Conclusion: Overall patients with PTSD in the VA had a large number of co-morbidities and HCRU. These findings illustrate high burden and unmet need for managing this condition with opportunities to improve treatments for these patients. This study was supported by Boehringer Ingelheim Pharmaceutical Inc.

Monday May 06

### **Predicting suicidal ideation and recent suicide attempts with computational speech and language features in psychiatric inpatients and outpatients**

*Simran Bhola; Leily Behbehani BSc; Ran Barzilay; Sunny Tang; Michael Spilka Ph.D.*

Background: In 2021 an estimated 1.7 million individuals attempted suicide in the U.S. with depression being the most common diagnosed mental illness leading to suicide ideation or attempts. Suicide ideation (SI) is a strong predictor of suicide attempts (SA) therefore detecting indicators of SI can be vital in identifying those at risk for SA. Machine learning and artificial intelligence hold promise in the detection of increased suicide risk to aid established clinical assessments. This may allow clinicians to

provide life-saving interventions at critical moments. Speech and language can be predictors for suicidal thoughts and behaviors as changes in speech and lexical choices may manifest as markers of elevated suicide risk. Using machine learning existing literature has extracted speech features from written documents to ascertain risk (e.g. social media posts). This novel research aims to extract natural language processing (NLP) features from audio-recorded speech and use these features to predict SI and SA in a machine-learning framework. Methods: Participants with major depressive disorder and/or borderline personality disorder (N=229) were recruited from inpatient and outpatient psychiatric settings and were prompted to respond to several language assessments (e.g. paragraph reading picture descriptions open-ended questions). NLP speech features were extracted from the audio samples. They were compiled with self-report scores from the Columbia Suicide Severity Rating Scale (CSSRS) taken at the time of assessment as well as binary scores for recent SA. Two predictive models were trained with the prediction targets including SI at the time of assessment (per CSSRS) and recent SA (per self-report and electronic medical records). Both models were validated on an 80/20 split after variable reduction techniques. Results: Our gradient boosting algorithm model achieved an accuracy of 0.67 (AUC = 0.76) on the test set for recent SA. Our model achieved an accuracy of 0.76 (AUC = 0.80) on the test set for SI at the time of assessment. Conclusions: The model was more successful in predicting SI indicating that speech may be a biomarker of SI. In both cases our model performed significantly better than chance. Future work should evaluate whether there are specific effects within diagnosis or genders as well as testing



in independent datasets to evaluate the potential for generalizability. Future work can also explore adding clinical ratings as a predictor in the model. In addition NLP features should be investigated based on importance in the tested models.

Monday May 06

### **Sex Differences in PCL-5 Coherence with CAPS Assessment of PTSD**

*Bhavya Bakshi; Almira Vazdarjanova; Rebecca Nalloor*

Background: Post-traumatic stress disorder (PTSD) afflicts some individuals after traumatic events: war assault natural disasters. Common diagnostic tools are PCL-5 a 20-item self-reported measure of PTSD symptoms/severity and the clinician-administered 30-item structured interview CAPS-5 'the gold standard for PTSD assessment'. Prior work suggested differences in severity scoring between PCL-5 and CAPS but they were deemed coherent as the differences did not significantly affect PTSD diagnosis. Because the prior research involved mostly men it is unclear whether the predictive power of PCL-5 is similar for women. We assessed sex differences in the coherence of PCL-5 and CAPS-5.

Methods: Participants recruitment: Trauma Recovery Clinic VA Augusta HCS and from the community before treatment with eligibility criteria: Age > 21 veterans and non-veterans; and exclusion criteria: individuals unable to provide informed consent and pregnant women. Participants completed both PCL-5 and CAPS-5 assessments. CAPS-5 was performed and scored by a trained interviewer. Participants were assigned to groups: noPTSD (33 for PCL-5 or >22 for PTSD and met criteria). Spearman's correlation analyses and Odds Ratio (with +/- 95% CI

based on the noPTSD and PTSD groups) assessed correlation and predictive power of PCL-5 for CAPS or CAPS for PCL-5 in each sex. Results: The analysis included 98 participants: 65 men and 33 women from varied ethnic backgrounds (age: 22- 78 mean 40). PCL-5 criteria yielded: Men: noPTSD= 38 subPTSD= 1; PTSD n=26; Women: noPTSD n= 28; PTSD n=5. There was a statistically significant correlation with CAPS scores in men (noPTSD p= 0.517; PTSD p= 0.003; all p = <0.0001). Statistical significance was not present in women (noPTSD p= 0.534; PTSD p= 0.5485; all p = 0.056). Importantly PCL-5 scores were a better predictor of CAPS scores for men compared to women- Men: OR= 2.7 (0.926- 7.951) p= 0.069; Women: OR= 1.4 (0.199- 9.963) p= 0.732). Conversely CAPS criteria yielded: Men: noPTSD n=20 subPTSD n=13; PTSD n=32; Women: noPTSD n= 19 subPTSD n=8 PTSD n= 6 and had a stronger predictive power for PCL-5 in both sexes- Men: OR= 27.8 (3.297-233.926) p= 0.002; Women: OR= 21.7 (0.879- 534.080) p= 0.06). Thus the predictive power of PCL-5 for CAPS is better for men than women group sizes aside as similar group sizes yielded (nearly) significant OR in the CAPS classification. Conclusion: The preliminary data show that PCL-5 has a greater predictive power for CAPS in men than women that merits further investigation. A larger sample will allow analysis of potential sex differences in the utility of PCL-5 in different types of index trauma. If replicated these results will suggest that different tools for PTSD assessment may be needed for men and women to properly identify their PTSD status and provide needed treatment.

Monday May 06

## **Shared Traumatic Reality of Therapists during Wartime: Immediate Reactions to the Trauma**

*Orit Taubman - Ben-Ari; Hilit Erel-Brodsky; Reut Ben kimhy*

This study explores the experience of Israeli therapists who both worked with clients in emergency interventions during the third week following the Hamas attack on Israel on October 7 2023 and were themselves exposed to one extent or another to the terrifying events. It is based on the concept of shared traumatic reality (Bauwens & Tosone 2014; Figley 2012) i.e. the responses of clinicians that stem from the collective trauma to this experience. Previous investigations of shared trauma focus mainly on therapists' reactions to the event and contributing factors (e.g. Freedman & Tuval Mashiach 2018). In the current study therapists' reports of the themes their clients raised in therapeutic sessions were compared with their reports of the hardships they themselves experienced as individuals and professionals during the same period. The study examines how close the themes are and how challenging it is to cope concurrently with a traumatic reality that is experienced both directly and indirectly. Two hundred therapists (psychiatrists psychologists social workers) completed open-ended questionnaires during the third week following October 7. Seven main categories emerged from the responses to questions about both their clients and themselves: (1) Uncertainty and worries about the near and more distant future; (2) Overwhelming emotions; (3) Physical sensations; (4) Shattered meaning and loss of trust; (5) Lack of routine; (6) Self-preservation; and (7) Shared trauma. The findings shed light on early reactions to a shared traumatic reality in the period closely

following the trauma itself indicating that professionals find it hard to differentiate between the personal professional and national levels when exposed to a large-scale traumatic event they share with their clients.

**Monday May 06**

## **The Complex Impact of Substance Use on Symptoms of SARS-CoV-2 Infection in a Psychiatric Inpatient Cohort**

*Sophia McInturff BS; Ana Ruiz BS; Christopher Gurguis; Scott Lane; Stanley Thomas*

Background: The global SARS-CoV-2 pandemic emerged in the context of longitudinal increases in substance use in the U.S. (1). In turn substance use and its associated medical comorbidities were found to worsen the prognosis of individuals with SARS-CoV-2 infection (1 2). Infection was also found to worsen psychiatric symptoms in those already diagnosed with mental illness though this effect was heterogenous across diagnoses (3-5). These patterns suggest complex interactions among psychiatric illness the immune system stress and resilience systems and substance use. Methods: We examined the impact of substance use on symptoms of SARS-CoV-2 in an inpatient psychiatric sample to further elucidate these variables. The data were extracted retrospectively from the EHR of patients who tested positive for SARS-CoV-2 at a large urban inpatient psychiatric hospital in Texas between June 2020 and February 2022. We compared the frequency of asymptomatic infection between individuals with and without a current diagnosis of a substance use disorder (SUD) and between individuals with and without a positive urine drug screen (UDS) using separate chi-square analyses. We used generalized linear models

fit with Poisson distributions to examine the influence of diagnosis of SUD and positive UDS findings on duration of symptoms. Results: The sample included 305 psychiatric inpatients (mean age = 35.13 60.3% male) 34.1% of whom were diagnosed with a SUD. UDS results were available for 141 participants (46.23%). There was no difference in the frequency of asymptomatic infection among those with a diagnosis of SUD ( $\chi^2=0.21$   $p=0.65$ ). Asymptomatic infection was more common in those with a negative UDS ( $\chi^2=5.78$   $p=0.016$ ). Patients with a substance use diagnosis tended to have longer duration of COVID symptoms ( $\chi^2=8.49$   $p=0.0036$ ). There was no effect of positive UDS status on duration of symptoms ( $\chi^2=0.85$   $p=0.36$ ). Conclusion: Collectively these results highlight the complexity of the relationship between substance use and infectious symptoms in psychiatric inpatients. A history of SUD appeared to lengthen symptoms when present but did not affect the probability of having symptoms of Sars-CoV-2 infection. This pattern suggests longitudinal or cumulative effects of substance use diminished the immune response to infection in these patients. At the same time individuals with a positive UDS were more likely to experience symptoms of SARS-CoV-2 infection but did not experience a longer duration of symptoms. In a previous study substance use was conceptualized as a form of coping with the stress of the pandemic but resulted in decreased avoidance behavior and therefore a higher chance of infection (6). Future work should distinguish between acute effects of repeated substance use on infectious symptoms.

Monday May 06

## **Trauma Scars Behind Bars: Exploring Trauma Perceptions and Recovery Desires Among Justice-Impacted Women in Prison**

*Amy Kim BA; Katherin Sudol; Kirsten Dickins*

Background: The population of justice-impacted women (JW) in the United States is on the rise currently numbering approximately 172700 incarcerated women and girls. JW often endure extensive trauma both before and during their incarceration which significantly contributes to their biopsychosocial risks for mental illness. This heightened risk is particularly evident in the high rates of post-traumatic stress disorder (PTSD) among JW which often co-occurs with substance use disorders (SUD). Data from 2002 show that 69.2% of JW met the DSM-IV criteria for substance dependence or abuse however only about half of these women received treatment. We could not find data on rates of treatment engagement in JW with PTSD. Our study aims to better understand the gap in treatment engagement by exploring the perceptions of trauma among JW and examining their attitudes towards interventions for PTSD and co-occurring SUDs. Methods: This study was conducted in two women's prisons in the Midwestern US with 51 JW participants. A sequential mixed methods approach was utilized. We used stratified random sampling to select 8 JW for in-depth pre-/post-intervention semi-structured interviews. A deductive-inductive content analysis approach was employed with an analytic matrix informed by the Ecological Model of Psychological Trauma. Results: All 51 participants experienced at least one traumatic event pre-incarceration with physical ( $n=50$  98%) and emotional ( $n=50$  98%) abuse being the most frequently reported exposures. PTSD symptomatology was prominent within this sample with 96% ( $n=49$ ) of participants demonstrating scores

on the PTSD Checklist for DSM-5 (PCL-5) reflective of a probable PTSD diagnosis. Of the 51 JW 43% (n=22) had a history of drug-related charges. Among the 8 participants selected for in-depth interviews 7 (87.5%) reported substance use (SU) prior to incarceration. Three major deductive themes were identified in our analyses: Trauma Trauma Responses and Recovery. JW articulated that SU was a coping mechanism and that they used substances to avoid or suppress thoughts feelings and unresolved reminders of past and ongoing traumas. JW shared concerns about returning to SU upon re-entering their communities where many of them returned to the contexts of their prior traumas and where SU was normalized making recovery maintenance challenging. Several participants emphasized the importance of a peer-led component in trauma-focused interventions. Conclusion: This study underscores the need for improvement in access and engagement in trauma-focused treatments – a matter of healthcare equity for JW. To improve mental health outcomes we recommend screening all JW for trauma alcohol and substance use and mental illness at the point of incarceration and again prior to release. Health services should be tailored to the trauma-related needs of JW and should incorporate interventions with peer-led sessions that address co-occurring PTSD and SUDs.

Monday May 06

### **Work stress mental wellbeing and presenteeism in employees in the United Kingdom (EMPOWER study).**

*Christina Van Der Feltz-Cornelis; Fidan Turk; Jenny Sweetman; Carlota de Miquel Bleier; Beatriz Olaya*

Work stress and related anxiety and depression can have an enormous impact on the well-being and work productivity of employees. It can affect their employers family and society as well. The European platform to Promote Wellbeing and Health in the workplace (EMPOWER) investigates and tests the impact and cost-effectiveness of an eHealth intervention platform aiming to prevent common mental health complications and to reduce psychological distress in the workplace in four European countries. The EMPOWER project started 1.1.2020 and is currently ongoing. We report baseline characteristics of 341 employees recruited in NHS mental health trusts and a University in the United Kingdom. Mean age was 35 years 272 (80%) were female 278 (81%) living together. 292 (85%) completed a University degree 261 (76%) had a permanent contract. 89(35%) reported presenteeism. Mean(SD) depression score (PHQ9) was 7.4(5.6) anxiety score (GAD7) 5.9(4.6) somatisation score (PHQ-15) 7.8(4.3) and wellbeing score (WHO-5) 42.7(21.2). In the group reporting presenteeism scores were significantly worse ( $p < .001$ ) for depression (9.69); anxiety (7.36) and wellbeing (34.38). However none of the scores reached clinical level. Pearson correlation analysis showed significant associations between mental health and presenteeism. Depression and anxiety (.73) and somatisation (.59) were associated with large effect sizes. Well-being was negatively associated with depression (-.75) and anxiety (-.58). Depression (.38) anxiety (.29) somatisation (.33) and wellbeing (-.30) were associated with presenteeism. 255 Employees reported on stress levels due to psychosocial risk factors at the workplace with elevated mean scores 40.13(15.8). Numerous adverse work circumstances were reported. Among others 65% reported too much work to do 54% had to adapt to

continual changes 41% reported poor communication within the organisation 38% had working hours hindering private life 30% reported a bad working atmosphere 25% reported lack of influence on how the job was performed and 24% reported lack of or inappropriate means to perform the job. Pearson correlation analysis showed significant associations between stress levels due to psychosocial risk factors at the workplace and mental health outcomes such as depression (.39) anxiety (.36) somatisation (.29) a negative association with wellbeing (-.43) and an association between work related stress levels and presenteeism (.21). Conclusion: The participants in this sample indicated elevated stress levels due to psychosocial risk factors at the workplace associated with depression anxiety somatisation low wellbeing and presenteeism. Given the numerous reported adverse work circumstances the finding that average levels of depression anxiety and low well-being in the sample were mild might indicate factors enhancing resilience of the workforce that warrant further study. Funding: European Union Horizon 2020

Monday May 06

### **(B)-Blocking Traumatic Memories**

*Rohini Rajnarayanan M.D.*

Propranolol is a commonly used medication for hypertension tremors and arrhythmias. Recently its use has broadened to include another potential indication- treatment of post-traumatic stress disorder (PTSD). Intrusive memories one of the debilitating symptoms of PTSD could be alleviated by propranolol based on its proposed effect on impairing (trauma-associated) memory reconsolidation. Preliminary clinical trials

showed either reduced physiological response to the traumatic memory reduced likelihood of developing PTSD or subjects remembering fewer emotional details of the traumatic event- these effects seem to depend on the timing of dose delivery<sup>4</sup>. This review poster aims to present updated information on the potential of propranolol as a treatment for PTSD. The research for this poster aimed to answer the question: “Is propranolol an effective medication for the treatment of PTSD?” A broad literature search in PubMed database using the terms “propranolol” and “PTSD” were used to find relevant studies. Additional articles were found from bibliographies of those studies. Only articles published within the last five years were used to include the most recent information. Because of a limited number of peer-reviewed studies within the last five years there were no restrictions on study design or language to avoid excluding relevant information. Review articles comments and abstracts were excluded from this search. This review compiled the results of three studies to identify a successful treatment modality for PTSD. A study done on mice using an activity-dependent tagging system found that propranolol works by decreasing fear expression and weakening the reactivation of initial trauma but does not impact anxiety-like behavior. Propranolol was found most beneficial with short term decrease in fear expression especially when administered just prior to re-exposure to the fearful stimulus<sup>2</sup>. Two similar RCTs on humans investigating timing of dose administration showed mixed results. The study done by Rouillet et al. showed no difference in symptom reduction between propranolol or placebo when co-administered with memory reactivation therapy; conversely Brunet et al. displayed a notable decrease in the posttreatment PCL<sup>5</sup>



score of the experimental group when compared to the placebo<sup>13</sup>. Additionally PCL5 and Beck's Depression Inventory showed continued improvement in participants with severe PTSD most notably at 3month follow up<sup>3</sup>. This indicates that while the immediate benefit of propranolol may be uncertain there are potential long-term benefits to pre-exposure propranolol treatment. Propranolol seems most beneficial when administered prior to fear re-activation however the true long- and short-term effects of propranolol on PTSD are still not well understood. Further research is needed to better understand the effects of propranolol on the intrusive memories associated with PTSD.

Monday May 06

### **App-tivating Progress: Harnessing Smartphone Apps for Depression Relief: A Systematic Review**

*Leah Pasch; Rhea Verma; Aman Sandhu; Ann Marie Masiello; Rahul Kashyap*

Background: Mental health conditions impact a significant proportion of the population with barriers like affordability stigma and limited healthcare providers often hindering access to treatment. Smartphone applications as therapeutic interventions for mental health could address many of these concerns and exemplify a promising new direction for delivering healthcare. A previous meta-analysis examined the efficacy of mobile apps for depression and found a moderate reduction in depression symptoms. However this review required depression as a diagnosis and omitted the undiagnosed population. We aimed to conduct a systematic review to explore the effectiveness of smartphone apps as mental health interventions for managing depression

or related symptoms. Methods: A comprehensive search was conducted on PubMed to identify studies published from January 2019 to March 2023. Included studies were randomized control trials that examined the impact of smartphone apps designed as interventions for mental health conditions. Control conditions were either waitlist or attention controls. Participants were ? 18 years old with no diagnosis required. Our meta-analysis assessed app efficacy by extracting quantifiable measures of depressive symptoms taken via diagnostic or screening tools and computing the mean difference in scores between the experimental and control group at post-intervention. A lower score indicates less depressive symptoms. This study was IRB exempted. Results: After screening for inclusion and exclusion criteria and selecting articles for a depression analysis a total of 15 studies were included. The total population included 3722 participants with 1914 in the experimental and 1806 in the control group. The pooled difference in scores between the experimental and control group at post-intervention with the experimental group exhibiting lower scores was -1.62 95% CI: -1.70 -1.55] (P < 0.001). Limitations of our analysis include large heterogeneity defined by I<sup>2</sup>= 99%. For a more homogenous sample we analyzed studies that only used the Patient Health Questionnaire (PHQ-9) as a diagnostic tool yielding a 0.73 mean difference in scores favoring the experimental group when compared to the control at post-intervention [MD: -0.73 95% CI: -1.14 -0.32] (P = 0.0004). Conclusion: Our findings indicate that the experimental group which received the smartphone app intervention exhibited significantly fewer depressive symptoms as measured by diagnostic scales when compared with the control group at post-intervention. The subgroup with uniform

PHQ-9 assessment also consistently showed a statistically significant mean difference in favor of the experimental group displaying lower scores and fewer depressive symptoms. These results offer support towards the potential therapeutic use of smartphone apps for managing depression.

Monday May 06

### **Assessing the Impact of Perinatal Depression on Postpartum Contraception Intent Choice and Reported Use**

*Grace Masters M.D.;Ph.D.; Nancy Byatt D.O. M.B.A. M.S.; Tiffany Moore Simas*

Objectives: Depression is a serious and common complication during pregnancy and the year following childbirth (the perinatal period). Postpartum contraception planning may reduce the risk of depression by decreasing the likelihood of unintended pregnancy and short interpregnancy intervals. The purpose of this study was to assess contraception intent choice and reported use in perinatal individuals with depression symptoms. Method: The study cohort included 212 individuals aged 18-45 who screened positive for depression on the Edinburgh Postnatal Depression Scale (EPDS score  $\geq 10$ ) in pregnancy or up to 3-months postpartum. Contraception intent and method choice were assessed at 1-3 months postpartum. At 5-7 months postpartum contraception use and method were queried and the EPDS was repeated. Logistic regressions examined associations with contraception use/method and EPDS score. Results: Compared to those with a negative EPDS at 5-7 months postpartum participants with persistent depression symptoms were 63% less likely to use contraception overall (adjusted odds ratio [aOR]=0.37 95% confidence interval [CI]=0.14-0.97). Among

those who reported any contraception use at 5-7 months postpartum participants with persistent depression symptoms were 5-times more likely to report using less effective contraceptive methods over the most effective contraceptive methods (aOR=5.02 95% CI=1.69-14.92) compared to those with a negative EPDS screen. Conclusion: Perinatal individuals with depressive symptoms that persisted at 5-7 months postpartum were less likely to report using contraception overall and more likely to report using less-effective methods. Our findings highlight the importance of provider engagement in contraception planning particularly with individuals with perinatal depression. We found associations between perinatal depression and non-use or use of less effective contraception. Postpartum contraception planning can mitigate risks for perinatal depression by minimizing the risk of unintended pregnancy and short interpregnancy intervals. Provider engagement with all patients around contraception planning is important particularly those with perinatal depression symptoms.

Monday May 06

### **Association of cytokines with trauma and post-traumatic stress disorder in patients with trauma history**

*Rishav Koirala M.D.;Ph.D.; Suraj Thapa M.B.B.S.; Edvard Hauff; saroj ojha; Hans Christian Dalsbotten Aass*

Post-traumatic stress disorder (PTSD) is a mental disorder that can occur after trauma. Although inflammatory markers such as cytokines are found altered in trauma and PTSD there is no consensus regarding which can be considered as biomarkers. Studies from South Asia region is also rare. We

studied cytokines among trauma affected patients and matched healthy controls. Fifty patients (cases) with trauma visiting the University hospital in Kathmandu and thirty-nine healthy controls were selected for this study. We compared the levels of the cytokines in thirty-four age and gender matched pairs of case and control among three groups: healthy volunteers cases with PTSD and cases without PTSD. Among the 34 pair-matched cases and controls IL-6 was significantly higher in both PTSD positive cases 2.43 (0.00 – 14.54) pg/ml ( $p=0.004$ ) and PTSD negative cases 3.00 (0.92 – 3.86) pg/ml ( $p=0.005$ ) than in controls 0.39 (0.00 – 11.38) pg/ml. IL-1b was significantly higher in PTSD positive cases 0.17 (0.00 – 5.27) pg/ml ( $p=0.011$ ) than in controls 0.00 (0.00 – 0.12) pg/ml. Other cytokines did not show significant differences. IL-6 was higher in both the trauma affected groups and IL-1b was higher in the trauma affected group with PTSD when compared to healthy controls. This supports the immune system activation hypothesis after trauma.

Monday May 06

### **ChatGPT on CapaciT: Examining the Reliability of AI to Make Capacity Determinations**

*Chukwuemeka Onyilo MD; Sek Eun Lee; Walid Anwar*

Introduction: Natural Language Processing Programs (NLPPs) such as ChatGPT & Bard are novel technologies set to change the healthcare landscape(1). However just because they can produce logical & complex responses does not mean they are replacements for physicians. Our team explored NLPPs' ability & consistency in making capacity determinations.

Objectives: Examine the inter-rater reliability

between NLPPs & between NLPPs & psychiatrists in determining patient capacity. Methods: Twenty fictional capacity vignettes of varying clinical completeness were used. Some were designed to lack elements of capacity (communication understanding appreciation reasoning). A few were designed as complex ethical scenarios emphasizing autonomy vs. paternalism & justice vs. benevolence. These vignettes were fed into ChatGPT 3.5 & BARD. Each was prompted to determine whether the patient in the vignette had capacity & why. Additionally two psychiatrists without knowledge of the NLPP's determinations were asked to make capacity decisions. Their capacity determinations were classified as "yes" "no" or "uncertain." All questions were framed as a scenario where the asker was a medical student taking an exam. The NLPP's determinations were then analyzed for inter-rater reliability between themselves & the human psychiatrist using Cohen's kappa. Our team used Dr. Mary McHugh's strict healthcare thresholds for interpreting Cohen's kappa(2). Results: Comparing the NLPPs with each other the weighted Kappa was 0.072 signifying no agreement. The Kappa between attending psychiatrist and ChatGPT was 0.296 and Bard was 0.162 signifying slight to fair agreement. The Kappa between resident psychiatrist and ChatGPT was 0.194 and with Bard was 0.017 signifying only slight agreement. Between resident & attending psychiatrist the kappa was 0.487 signifying moderate agreement. ChatGPT 3.5 had higher Kappas but they were still in the slight to fair range of agreement. Conclusion: Our research helps show that there is still a lot of work to be done to reliably depend on NLPPs to mimic human decision-making for something as serious as a capacity determination - if that is even ethical at all. The interrater reliability between the

two NLPPs would be considered 'None' per Dr. McHugh's ratings. ChatGPT had a higher kappa when compared to human psychiatrists but still a low overall reliability. NLPPs are incredible technologies with notable healthcare applications in imaging EMRs diagnosis innovation & treatment(3). As we see the dawn of a technological revolution impacting all fields of medicine we must temper their introduction cautiously. A greater question of whether we should entrust AI to balance autonomy & beneficence while keeping sight of the larger humanistic picture remains unanswered.

Monday May 06

### **Comparing patient and provider perspectives of the role of contraception in public mental health care**

*Clara Nguyen BS BA; Emily Dossett MD; Alison Hamilton; Kristina Cordasco; Nichole Goodsmith MD PhD*

**Background** For many individuals with serious mental illness diagnoses mental health (MH) clinics serve as their primary healthcare contact; thus there is growing interest in "reverse integration" or delivery of primary care (PC) services in MH clinics. Providing contraception in MH clinics is a potentially impactful example. To inform such efforts we assessed patient and provider attitudes on contraceptive counseling and provision in public MH clinics. **Methods** Applying a reproductive justice framework and principles of community-partnered participatory research we partnered with leadership of a large urban safety net MH system to conduct qualitative interviews with 36 MH providers (psychiatrists therapists case managers and nurses) and 22 reproductive-aged cisgender women patients (predominantly Black or Latina). Interviews

focused on experiences and preferences of addressing contraception during routine MH care. Providers also responded to a vignette of a sexually active patient who desires to avoid pregnancy and is not using contraception. We used rapid qualitative analysis to summarize interview transcripts and identified themes using matrix analysis. **Results** Patients described limited experiences discussing contraception with MH providers but many expressed a desire for discussion citing relevance to MH and wanting information about contraceptive options or potential interactions with psychotropic medications. Those who had discussed contraception described these conversations as appreciated or "normal." Asked whether they would prefer to receive contraceptive services from their MH or PC clinic some favored PC citing the relevant medical knowledge and scope of practice of PC providers. Others favored MH citing a closer relationship and the MH provider's intimate knowledge of the individual's MH symptoms and medications. Providers varied in their experiences with and comfort discussing contraception. Some brought it up routinely; many never discussed it or brought it up only when concerned. In response to the vignette most providers said they would educate the patient on her pregnancy risk and refer her elsewhere (e.g. PC or free clinic) for contraception; some would discuss specific contraceptive options. Providers shared concerns about pressuring the patient or that the patient might be uncomfortable or unreceptive. Providers who expressed discomfort around discussing contraception often cited scope of practice or lack of knowledge training or experience. Several male providers expressed gender-related discomfort. **Conclusions** Patients expressed a desire to discuss contraception with MH providers; providers however varied in degree

of comfort and competence in contraceptive counseling. MH providers would benefit from training in contraceptive options side effects and patient-centered contraceptive counseling approaches to mobilize their trusted relationships with patients to bridge gaps in access to contraceptive services.

Monday May 06

### **Effects of Ashwagandha on Cognition Energy and Mood in Adults: A Prospective Randomized Double-Blind Placebo-Controlled Study**

*Ravleen Suri MBBS; Gurtej Gill; Sasidhar Gunturu*

Background: Ashwagandha an ayurvedic 'rasayana' derived from nature boasts a multitude of therapeutic advantages. Functioning as a recognized 'adaptogen' it displays robust anxiolytic characteristics. The escalating occurrence of stress and its detrimental impact on well-being is a swiftly growing global concern. Given the unfavourable repercussions with many current medications there is a need to delve into alternative solutions like Ashwagandha to evaluate its effectiveness in stress treatment. Methods: A dual-center randomized placebo-controlled trial was carried out across two locations: D.Y. Patil University Navi Mumbai India and Clinical Research Australia Duncraig Australia. The study involved 121 participants who were divided into an experimental (n=61) and a placebo group (n=60). Data was collected at week 0 and week 8. The participants aged between 30 and 75 years had self-reported challenges with memory cognitive function attention fatigue and mood fluctuations. They were randomly assigned to receive either Ashwagandha or a placebo. Their cognitive abilities mood states fatigue levels and

executive functioning were evaluated using the Computerized Mental Performance Assessment System Profile of Mood States (POMS) scale Behavior Rating Inventory of Executive Function-Adult (BRIEF-A) and the Mental Fatigue Scale (MFS). The supplement administered during the study was KSM-66 Ashwagandha root extract encapsulated at a dose of 300mg which was produced by Ixoreal Biomed Inc. in California USA. The participants were directed to take the capsule twice daily for 8 weeks. The research adhered to the principles outlined in the Helsinki Declaration (1989 amendment) and received approval from the Institutional Ethics Committees. The study's ethical considerations followed the guidelines of Good Clinical Practice and the protocol was registered with the clinical trials registry of India (CTRI registration number: CTRI/2021/10/037029; [Registered on: 01/10/2021]. Results: In comparison to the baseline data the study revealed positive advancements in episodic memory ( $p=0.026$ ) working memory ( $p=0.027$ ) and attentional accuracy ( $p<0.001$ ). The scores for location learning demonstrated a significant increase indicating improved learning duration within the ashwagandha group as opposed to the placebo group after an 8-week period of supplement consumption. Noteworthy statistical significance was observed in both BRIEF-A scores and MFS scores signifying enhanced executive functioning and mood improvement in the ashwagandha group. Conclusion: The findings of our investigation strongly indicate that a regimen of 300mg taken twice daily can effectively enhance cognition elevate energy levels and uplift mood among adults. This study highlights the necessity for further research into ashwagandha's potential encompassing extended study durations diverse dosage levels and broader demographic samples.



Monday May 06

### **Empowering Mental Health Care Teams: A Survey-Based Assessment of Healthcare Worker Access to Mental Health Care**

*Amira Athanasios M.D.; Nicholas Flugrad M.D.*

In this cross-sectional survey-based study we delved into the mental health of healthcare workers (HCWs) within the expansive Hackensack Meridian Health (HMH) system in New Jersey. Our goal was to assess the vectors of mental health wellness within this HCW population and explore whether those with high levels of mental distress were able to access behavioral health resources or treatment. Additionally we aimed to identify the barriers hindering HCWs from accessing mental healthcare. This study sought to analyze variations in responses based on HCW demographics including age gender clinical role hospital clinical setting shift schedule and years of experience. The healthcare sector confronted unprecedented challenges during the COVID-19 pandemic. Healthcare providers found themselves grappling with the emotional toll of caring for critically ill patients compounded by issues such as personal protective equipment shortages and grueling work hours. This study was motivated by the need to gain a comprehensive understanding of the extent of these challenges and their impact on the mental health of HCWs as well as how HCWs coped with these pressures. Existing research indicated increased anxiety depression and post-traumatic stress symptoms among HCWs during the pandemic yet there was limited research on effective solutions. Our study aimed to address this gap by assessing access barriers and motivations for mental health care

among HCWs. The primary objective of this study was to rigorously assess the access HCWs had to mental health resources during the COVID-19 pandemic. We anticipated finding a relatively low level of utilization of behavioral health treatment among HCWs. Moreover we expected to identify various barriers including a culture of self-diagnosis internalized bias and concerns about disclosure. This study was driven by a commitment to providing data-driven insights that could aid in supporting the mental well-being of our healthcare heroes. We employed a cross-sectional survey design gathering data from HMH HCWs through an IRB-approval. The survey encompassed demographic questions validated mental health screening tools and queries designed to understand access to mental health care. To minimize potential research team influence recruitment emails were dispatched by HMH's HR department. Strict ethical standards were upheld ensuring data security confidentiality and informed consent. This study represented a critical endeavor that illuminated the mental health challenges faced by HCWs during the pandemic and the multifaceted factors that influenced their access to mental health care. The findings hold the potential to inform strategies that could more effectively support the mental well-being of our invaluable healthcare workers while highlighting potential equity shortcomings and in turn enhancing patient care outcomes.

Monday May 06

### **Evaluation of Implementation Strategies for a Task-Shifted Intervention to Target Depression & Alcohol Use Among Fathers in Kenya**

*Michaela Greenlee; Ali Giusto PhD*

In Kenya and other areas there is a gap in treatment efforts for fathers struggling with depression and problem alcohol use. While some treatments exist to treat depression and alcohol use understanding how to deliver treatments sustainably that engage men are needed. To do this this study aimed to identify implementation strategies for delivering a lay provider intervention for fathers with problem alcohol use and depression in Kenya. To identify promising implementation strategies we conducted key informant interviews and focus group discussions with community members in Eldoret Kenya. 31 individuals were interviewed including policymakers hospital leaders mental health providers fathers experiencing alcohol use community leaders current and past patients. Interviews were guided by the Consolidated Framework for Implementation Research and Integrated Sustainability Framework. The frame method and thematic analysis were used for analysis. Analysis included transcript review coding using NVivo 12.0 and extracting implementation strategies from transcripts and summaries. Strategies were coded matched and operationalized by Expert Recommendations for Implementing Change (ERIC) taxonomy. Using this data we specified the strategy matches based on actor action action target temporality dose outcome affected and justification. Regarding facilitators of fathers' engagement intervention reach and acceptability may be facilitated by family-centered group sessions and might bring more positivity to fathers. This matched with the ERIC strategy to "involve patients/consumers and family members" in the implementation effort. An often noted retention strategy may involve increasing fathers' financial support (e.g. providing gifts like kids' school supplies) or helping them start businesses which matched with the ERIC strategy to "alter

incentive/allowance structures." Concerning the location hospitals or churches may facilitate the intervention's reach appropriateness and patient-centeredness by providing fathers a safe space where they feel unjudged. This matched with the ERIC strategy to "change service sites" to increase access. Lastly sustainment may be achieved by connecting fathers to peer support groups composed of fathers who have overcome their depression and problem alcohol use which matched with the ERIC strategy to "promote network weaving" thus upholding the intervention's acceptability satisfaction and patient-centeredness. Top strategies suggested supporting fathers socially and financially were important to successful delivery. Fathers may benefit from being empowered not only by family members during the intervention and peer support groups post-intervention but also financial resources to sustain motivation. Future analysis will include further evaluating the intervention's acceptability appropriateness feasibility and fidelity to inform implementation revisions.

Monday May 06

### **Existing guidance on establishing medical student - resident mentorship programs: a literature review**

*Grace Ro M.D.; Tessa Oliver; Japsimran Kaur BS; Mark Nickels*

Background: Interest and match data in psychiatry residency among graduating medical students continue to grow each year. There is published literature about the importance and benefits of providing mentorship to medical students. However there is limited information about how to establish such a program connecting medical students to residents in training in institutions

where such programs do not currently exist. This literature review explores what such structures guidance or tools exists in the literature and discusses potential areas for more academic research in medical education and mentorship to be explored. Methods: The online databases PubMed and MedEd Portal were used to identify potential articles to assess the current literature of existing programs which connect medical students to residents in their specialty of interest from inception to 8/17/23. The search strategy contained terms related to “medical student OR medical” AND “mentorship OR mentor” AND “resident OR residency” in various permutations. To be considered for this review the articles had to be written in English describe a program resource or tool involving both medical students and residents for the purpose of providing mentorship. Results: Of the 176 results on PubMed 6 articles met the above inclusion criteria for this literature review. Of the 198 results on MedEd Portal 4 articles met the above inclusion criteria for this literature review. 20% (N = 2) of the articles discussed how to build a mentorship program one of which discussed a medical student focused vascular surgery research mentorship program built on 4 pillars: ownership mentorship experience and independence within the research process and another article which discussed mentorship in anesthesiology that outlined a 5 step mentorship plan: identification of program rationale provision of mentee education design of tailored programs development of mentor profiles and fostering mentor relationships. A majority of articles included resources for mentors (80% N = 8) 20% (N = 2) for mentees and 10% (N = 1) for program directors. Of the 10 articles reviewed 70% (N = 7) had resources for career mentorship 50% (N = 5) for clinical mentorship and 30% (N = 3)

for research mentorship. As one article had resources for both mentors and mentees and multiple had resources for more than one mentorship sphere percentages above do not total to 100%. Conclusion: There are existing tools and resources focused on the mentor-mentee relationship in medicine though limited guidance in the process of establishing a mentorship program involving medical students and residents. More research in this area may be helpful for early trainees to have access to sustainable established mentorship resources as they pursue a career in psychiatry.

Monday May 06

### **Family Planning and Contraception Education in Women of Child-bearing Age in an Inpatient Behavioral Health Unit.**

*Nazila Sharbaf Shoar M.D.*

An unintended pregnancy in women with mental disorders can affect both maternal and child health outcomes. Moreover the number of unplanned pregnancies in women of child-bearing age diagnosed with schizophrenia is higher than the general population. As a result our goal is to enhance patient education on reproductive health and access to contraception in women of child-bearing age admitted to an inpatient behavioral health unit at a community hospital in the Central Valley of California. We developed patient-education materials on the complex interaction between pregnancy maternal mental health and the potential for teratogenic effects of psychotropic medications. In addition with the informed consent of the patient we will place outpatient referral to Obstetrician-Gynecologist Women Health clinic as part of the discharge planning process to mitigate the number of unintended pregnancy in

recently hospitalized women with mental disorders. All female patients of reproductive age (18 to 51 years old) with a mental disorder admitted voluntarily or involuntarily for danger to self danger to others and/or grave disability will be considered for inclusion in this endeavor. The treating physician will provide patient education both verbally and via an educational pamphlet to the patient. This discussion will occur when the patient's mental state is stable close to the time of discharge and will be documented in the patient's electronic medical record. Information on contraception discussion on admission and then again upon discharge will be recorded with the aim for at least 70 percent documented counseling in the medical record. Lastly we will track the decision to consent for referral to Obstetrician-Gynecologist Women Health clinic. As a part of this study we further discuss issues related to mental health specific contraception method safety and drug interaction considerations clinical counseling and management strategies. We highlight areas for future research as there are gaps in current scientific knowledge of psychiatric illness and contraception.

Monday May 06

### **Informed Consent and Contraception When Prescribing Valproate to Individuals of Childbearing Potential**

*Natalie Jarahzadeh M.D.; Anna Belikova D.O.; Mariella Suleiman M.D.*

Background: Valproate (VPA) is prescribed for neurologic and psychiatric disorders and while effective for management of bipolar disorder it comes with significant risk of teratogenicity including congenital malformations [123]. Guidelines established

by APA NICE etc. are not routinely followed by prescribers and there is no standardized protocol on obtaining informed consent when starting a woman of reproductive age on VPA and discussions regarding adequate contraception remain limited [4]. Objective: This quality improvement (QI) project aims to ensure all patients in our department receiving VPA are counseled on the potential teratogenic risks and adequate contraception use. Method: This is an IRB exempt QI project analyzing the documentation of risk including teratogenicity and need for contraception including which methods and who is the prescriber before and after a department-wide educational intervention targeting all clinicians who work with individuals of child-bearing potential. Data collection was done manually by psychiatry residents on all inpatient and outpatient charts identified by MIS as having a prescription for VPA in 2022 and 6 months post-intervention. Results: The data shows 62.8% of providers pre-intervention vs. 71.4% of provider's post-intervention documented informed consent 13.22% vs. 28% documented teratogenicity and 15.66% vs. 28% documented contraception. Conclusion: The low rates of documented informed consent and even lower rates of documented contraception in our data sample are of concern and unfortunately not very different than published national averages. While we did observe an improvement in rates of documentation there is still opportunity for further provider education and awareness of these safe practices. Only when this is achieved would the psychiatric community be equipped to address the adverse effects of VPA. The principle of "do no harm" needs to be at the forefront of every clinical visit and we aim to implement the educational intervention

yearly at our institution to improve the safety of all patients.

Monday May 06

### **Is There a Role for a Single Session of Trauma Focused Therapy in the Acute Inpatient Psychiatric Unit?**

*David Eckles M.D.; Olli Toukolehto*

Ideally patients admitted to the inpatient psychiatric unit for suicidality secondary to trauma have a quick transition to outpatient trauma-based therapy. However access to outpatient care is not necessarily timely. Wait times can be over 30 days (Majlessi 2021) and scheduling an appointment with a psychiatrist despite having insurance can be difficult (Malowney 2015). Additionally the percentage of mental health needs covered in a state can range significantly. As an example here in Hawaii only 14.1% of the state's mental health needs are met (KFF 2022). What about trauma therapy while inpatient? Due to the number of sessions required for most manualized trauma therapy inpatient trauma therapy is not ideal. Prolonged exposure cognitive processing therapy and EMDR all require anywhere from 10-12 session (Kip 2013). However accelerated resolution therapy (ART) requires an average of 3.7 sessions (Howe 2018) but has been done in a single session as short as 45 minutes (Toukolehto 2019). ART is a variation of EMDR and EMDR is recommended by multiple clinical practice guidelines for PTSD (Megnin-Viggars 2019; VA.gov | Veterans Affairs 2023). This research poster presents the case of two patients with sexual assault history who were treated with a single session of ART during an inpatient psychiatric admission. Both patients were in their early twenties female and admitted for suicidality secondary to their trauma history.

One patient had a complex trauma history of both recent and distant sexual trauma. The other patient had a recent sexual trauma. Both patients received a single session of ART during their inpatient psychiatric hospitalization. They both reported improvement in symptoms and showed clinical improvement (i.e. resolution of dysphoria increased sleep decreased anxiety improved eye contact full ranging affect and report that the traumatic memories were less intrusive and bothersome). To the authors' knowledge there are no published studies nor case reports of ART used in an inpatient psychiatric unit. Although we cannot conclude that ART had lasting effects beyond the observed effects on the unit prior publications of ART have confirmed that the therapeutic effect lasts at least two months (Waits et al. 2017) to six months (ukolehto 2019). These cases show that ART can be effective for reducing trauma symptoms and thus patient suffering during acute stabilization. ART can potentially bridge the gap between inpatient discharge and the wait for outpatient trauma therapy. However further research is needed to collect more robust evidence. Although ART was effective in clinically reducing trauma related symptoms the main limitation of these cases is lack of objective measurements of PTSD due to loss to follow up. Namely pre and post objective data collection is needed to determine the immediate effects of inpatient ART and the length of lasting effects after discharge.

Monday May 06

### **Lithium Use During Lactation**

*Megan Kummerlowe D.O.; Jonathan Leung Pharm.D R.Ph; Hannah Betcher M.D.*



Introduction: Historically breastfeeding with maternal lithium use has been discouraged based on breast milk transfer and cases of elevated infant serum lithium concentrations. Recent data suggests that maternal lithium is acceptable in breastfeeding for healthy full-term infants with appropriate monitoring. Lack of clear recommendations for infant monitoring may contribute to decreased patient and clinician comfort with breastfeeding in this population. We aimed to identify current breastfeeding rates for patients using lithium within our institution to guide research and practice guidelines. Methods: We conducted a retrospective chart review to identify cases of pregnant persons prescribed lithium reporting rates of breastfeeding and infant adverse events. Results: We identified 18 cases of maternal lithium use in the postpartum period within our institution over 10 years. 39% (n=7) of patients taking lithium postpartum breastfed. Most patients 61% (n=11) initiated lithium prior to pregnancy with 28% (n=5) starting postpartum and 11% (n=2) starting during pregnancy. Median lithium dose was 900 mg daily. No adverse infant side effects were observed based on parental or available clinician reports. Conclusion: Our data demonstrates that most patients using lithium postpartum have been taking lithium long-term and most patients are not breastfeeding while taking lithium. As in our cohort a recent study demonstrated that lithium exposure in breast milk is tolerated by infants with no severe adverse effects reported. Given the importance of lithium as a mood stabilizer there is a clear need for ongoing research and monitoring guidance to better support patients who would like to breastfeed while on lithium.

## **Mind the Gap (in care): Training Mental Health Providers to Address Patients' Unmet Sexual and Reproductive Healthcare Needs**

*Hannah Kearney MSc MD; Juveria Zaheer M.D. M.Sc.; Lucy Barker M.D.*

**SUMMARY:** Background: The National Institute of Mental Health estimates that 5.5% of adults in the United States live with a psychiatric disorder that results in serious functional impairment or a severe and persistent mental illness" (SPMI). Individuals with SPMI are at a subsequently elevated risk of experiencing disparities in terms of both access to healthcare and health outcomes. Two domains in which individuals with SPMI face substantially worse outcomes than the general population are sexual and reproductive healthcare (SRHC). Prior studies have demonstrated that individuals with lived experience of SPMI are more likely to have an increased number of lifetime sexual partners engage in risky sexual behaviours be at risk of contracting a sexually transmitted infection and experience unwanted pregnancies. However despite increased knowledge of these disparities and calls for systemic change by organizations such as the National Task Force on Women's Reproductive Mental Health training mental health providers (MHP) on SRHC has yet to be integrated into standard practice. This literature review aims to synthesize existing work on the comfort knowledge and training of MHP on SRHC topics and to summarize current recommendations for clinical change. Methods: A literature review was conducted by searching OVID Medline Embase and PsycInfo for peer-reviewed articles addressing MHP comfort knowledge and training on sexual and reproductive health including qualitative studies survey studies educational interventions and literature

reviews. The search used relevant keywords including "Mental Health" "Sexual Health" "Reproductive Health" "Family Planning" "Health Personnel" "Education" and "Practice Guideline." The search generated 224 results which were then screened for language and relevant content using the title and abstract. Articles written in English that mentioned MHP and SRHC progressed to a full-text review. Articles were then assessed for data on or discussion of provider comfort knowledge or training on SRHC in a mental health context. Results: Of the 18 full-text articles reviewed only 14 focused explicitly on MHP knowledge comfort or training on SRHC. Notably only one article assessed the efficacy of an SRHC educational intervention for MHP. A common theme that emerged from the heterogeneous pool of literature was that providers reported having inadequate training in SRHC leading them to not offer SRHC due to a lack of knowledge or ability despite having a reported interest in doing so. Conclusion: To address the significant SRHC disparities experienced by patients living with SPMI systemic interventions—including improved provider education and hospital-based policies—must be implemented. Further research on the best practices for MHP training on SRHC is also needed to ensure providers have adequate skills and knowledge to deliver affirming care."

Monday May 06

### **Network Connectivity and Neural Correlates of Moral Injury: A Scoping Review**

*Srija Seenivasan; Aaron Wolfgang M.D.; Chandler Sours Rhodes; Sharon Kim; Lyubov Tmanova*

Background: Moral injury an experience of a transgression of one's personal ethics is an

increasingly important concept in psychiatry due to its frequent overlap with posttraumatic stress disorder (PTSD) considering 25-35% of those with PTSD are diagnosed due to a morally injurious event (Litz et al. 2018). The neural signatures of PTSD including those related to the central executive network (CEN) default mode network (DMN) and the salience network as well as their modulation for therapy have been extensively studied using neuroimaging techniques. However studies on the neuroimaging correlates of moral injury remain scarce. This scoping review aims to summarize the current state of neuroimaging evidence regarding moral injury and identify gaps in the literature that may guide further research for personalized diagnostic and treatment approaches. Methods: Four databases OVID PsycINFO PubMed and Web of Science were searched with four concepts: neuroimaging (e.g. MRI DTI PET); neural correlates (e.g. functional connectivity neural networks brain regions); moral injury (e.g. moral transgression psychological injury); and PTSD. The search results were limited by publication within the last 10 years adult subjects of age 19+ and human studies. Selected articles were screened using Covidence in a three-person team. Exclusion criteria included EEG TBI neuropsychiatric disorders and PTSD without mention of subtype of trauma. Inclusion criteria included PTSD with mention of subtype of trauma. Results: We identified overlapping conclusions on the neural network nodes and signatures of moral injury based on identified concepts of self-referential processing guilt shame transgressions or betrayal. Sun et al. (2019) found increased activity of the inferior parietal lobule in the DMN while Lloyd et al. (2021) identified increased activity in primarily the dorsal medial prefrontal cortex of the DMN. He also showed increased

activation of the salience network and dorsal anterior cingulate cortex node. Kearney et al. (2023) found functional hyperconnectivity of the supramarginal gyrus within the sensorimotor network. Lastly Terpou et al. (2022) reported higher functional connectivity in the midbrain periaqueductal grey and cerebellar lobule not typically included in intrinsic connectivity networks.

Conclusions: The small number of studies that investigate the potentially unique neural correlates of moral injury highlights the need for more neuroimaging studies to incorporate moral injury as a distinct construct. We also call attention to the need to aggregate neuroimaging findings specifically fMRI data to highlight clear neural pathways for moral injury parallel to the fear-based neural circuits established for PTSD. Clarifying whether moral injury carries a distinct neural signature from other trauma types may help guide personalized diagnostic and treatment approaches.

Monday May 06

### **Postpartum Depression Screening and Risk Factor Analysis in the Setting of a Pregnancy Crisis Center**

*Priyanka Bhakta BBA; Elizabeth Bradshaw; Catherine Hand; Elizabeth Long; Danielle Wood*

Background: Postpartum depression is a mental disorder that is both fierce in its debilitating hold on mothers as well as unfortunately common. According to the American Academy of Psychiatry (AAP) it has been estimated to affect 1 in 7 women. Several studies have demonstrated the negative outcomes on both mothers and newborns leading to 20% of maternal deaths after birth persistent depression for mothers fewer attendance at well-child visits and

decreased likelihood in following safety recommendations for infants. Although several risk factors have been proposed in previous literature etiology of this disorder is still unclear. In coordination with Any Woman Can a pregnancy crisis center women were screened for Postpartum Depression two weeks after their due date. Methods: Medical students called women who had been seen at Any Woman Can two to four weeks after their due date and screened them for PPD. The Patient Health Questionnaire-2 (PHQ2) was used as an initial screen for depressive symptoms. Women who scored 2+ underwent additional screening through the Edinburgh Postnatal Depression Scale. Women who screened positive were given free education resources to receive counseling and encouraged to visit their healthcare provider for appropriate workup and treatment. Epidemiological data was collected and risk factors were analyzed using STATA. Results: From October 2020 to December 2022 103 women were screened and epidemiological data collected. 19.4% of patients screened positive for PPD higher than the national average of 14.4% reported by the AAP. Of the risk factors associated with PPD education level initial intention to carry and planned pregnancy showed statistically different outcomes between the +PPD and - PPD groups. Conclusion: While the 19.4% positive rate is higher than estimated by the APA and certain known risk factors were not statistically significant results may have been affected by the small sample size or pre-screening bias. The population screened in the study were also at a much higher likelihood of having multiple risk factors associated with postpartum depression as they received care from a pregnancy crisis center. In the future this study would like to look into other PPD risk factors established by the literature including previous mental

health diagnoses as well as outcomes of mothers that screened positive and received education and resources. It is imperative to better understand the etiology of PPD in order to better educate and screen mothers to lead to appropriate treatment and improve outcomes for both mother and child.

Monday May 06

### **PTSD symptoms as a predictor of severity in anxiety clinic patients**

*Lindsay Pang MD; Claudia Soto de La Cerda; Andrea Boscutti M.D.; Carolina Olmos M.D.*

Introduction: Anxiety has long been associated with mood disorder comorbidities despite remaining a diagnostically distinct entity. It has been suggested that this association may be related to possible overlap of diagnosis criteria or partially due to shared genetic predispositions. However there is still lack of emphasis on PTSD screening significance or the impact of PTSD symptoms on anxiety severity. There are currently no recommendations of PTSD screenings in anxious or depressed patients or cut-off scores in self-reported instruments that indicate simultaneous presence of PTSD. Patient administered questionnaires such as PHQ-9 and GAD-7 have been validated instruments to assess the severity of depression and anxiety symptoms respectively. Here we assess the correlation between GAD-7 and PHQ-9 and the relationship with PTSD amongst patients from our anxiety clinic. Method: Patients treated at our institution's anxiety clinic were given the PHQ-9 and GAD-7 to fill out prior or during their initial intake assessment. The patients' primary diagnoses and comorbidities were documented. A bootstrapping technique with 1000 iterations was employed to estimate the partial correlation between the PHQ-9 and

GAD-7 scores. Separate Bayesian regression analyses were conducted to predict GAD-7 and PHQ-9 scores. PTSD diagnosis was used as independent predictors while controlling for age. Results: The sample included 83 subjects. The mean ( $\pm$  SD) age was  $39.25 \pm 14.21$ . 10.84% were males. The average GAD-7 and PHQ-9 scores were  $11.22 \pm 5.88$  and  $9.96 \pm 6.85$  respectively. The prevalence of MDD Panic disorder and PTSD symptoms as comorbidities were 60.24% 34.94% and 34.94% respectively. After adjusting for age the bootstrapped correlation coefficient between GAD-7 and PHQ-9 scores was 0.74. The 95% confidence interval for this correlation coefficient ranged from 0.63 to 0.83. For GAD-7 scores the posterior mean  $\pm$  SD 3% highest density interval (HDI) and 97% HDI for the age coefficient were  $-0.017 \pm 0.046$  and  $[-0.107 - 0.067]$ . For the PTSD coefficient values were  $3.051 \pm 1.337$  and  $[0.553 - 5.584]$ . For PHQ-9 values were  $-0.046 \pm 0.054$  and  $[-0.145 - 0.054]$  for the age coefficient; for the PTSD coefficient values were  $2.521 \pm 1.565$  and  $[-0.257 - 5.622]$ . Regarding the association between PTSD and the scores 98.75% of the posterior distribution for the PTSD coefficient in predicting GAD-7 scores was above zero and 94.91% for predicting PHQ-9 scores. Discussion: In our sample we found a positive relationship between the GAD-7 and PHQ-9 scores after adjusting for age. A PTSD diagnosis had a very high chance of predicting higher scores in both GAD-7 and PHQ-9 after adjusting for age. This highlights the importance of screening for comorbid diagnoses especially PTSD in patients with anxiety.

Monday May 06

### **Screen Time Trends in an Outpatient Behavioral Health Clinic**

*Claire Franklin M.D.; Alison Schafer*

Electronics use has become a prevalent part of everyday life. Electronics may include smartphones tablets videogaming devices television streaming media and computers. Although recently there has been increased interest in the wellness effects of electronics use there is a lack of research in this area focusing on psychiatric patients. In this cross-sectional study we surveyed 85 patients of an outpatient behavioral health clinic ages 13-75 regarding trends in their electronics use and their perceptions of the personal wellness effects of electronics use. Participants were recruited in the clinic and administered an anonymous five-minute survey that consisted of 30 self-report questions designed by the researchers. Participants provided demographic information and estimated daily time spent on social media video/TV viewing and gaming using a multiple-choice scale. The survey also included questions asking participants how electronics use impacts different aspects of their personal wellness such as relationships performance at work/school sleep and attention. Participants responded using a five-point Likert scale. Responses are analyzed to find average time spent on electronics use and mode for Likert-scale questions. Fisher tests were used to compare differences in responses between different demographic groups. The results indicate that users may spend a significant portion of their day on social media and TV/video viewing. Furthermore users may view electronic devices as negatively impacting their wellness in some areas of life (e.g. sleep) while supporting their wellness in others (e.g. social connection). Comparisons between demographic groups indicate that electronics use trends vary based on age and gender. No significant differences based on age or gender were found with respect to participants' views on the impacts of

electronic device use however. The results also indicate that people who spend more time on social media may be more likely to view their electronics use as problematic.

**Monday May 06**

### **The Confluence of Borderline Personality Levetiracetam and Suicide: A Case Report and Literature Review**

*Alice Kisteneff M.D.; Keelan O'Connell*

Background: Depression and anxiety are well-described comorbid conditions with seizure disorder and its treatment. However personality changes associated with seizure disorder are not typically known to meet criteria for any specific personality disorder. Levetiracetam (LEV) is a first-line antiepileptic drug (AED) commonly used to treat seizure disorder. Treatment with LEV is known to induce mood changes and behavioral problems like aggression agitation emotional lability hostility and irritability (1). We present the case of a 20-year-old active duty man who developed mood character and behavioral changes in the year following a seizure disorder diagnosis and treatment with LEV. During that year he was diagnosed with borderline personality disorder continued taking LEV for seizure disorder and died by suicide three weeks after his third psychiatric hospitalization for suicidal behavior. To determine the extent to which suicide is associated with LEV use in published literature we conducted a literature search. Methods: Our medical librarians helped conduct a database search of Medline Embase Web of Science and PsychInfo. Keywords "levetiracetam" or "Keppra" "suicide" and associated terms and "mood changes" and associated terms were used. A second search was conducted on the same databases using the keywords



“levetiracetam” and associated terms “suicide” and associated terms “mood change” and associated terms and “borderline personality.” Both searches were limited to pieces written in English and regarding human subjects. A manual search for articles and textbooks was also completed. Results: The first search yielded 319 records on Medline 96 on Embase 313 on Web of Science and 150 on PsychInfo. The second search identified only 52 records on Medline and 2 on Embase. A 2021 systematic review of post-marketing published data demonstrated that switching from LEV to another antiepileptic drug significantly improved psychiatric symptoms like irritability anger and aggression (2). A 2023 pharmacovigilance study of suicide related events associated with antiepileptic drugs reported that LEV is associated with increased risk of suicide (3). Articles linking the constellation of symptoms associated with LEV use borderline personality traits and suicide were not found. Conclusion: An increased risk of suicide associated with LEV in patients with seizure disorder is well documented in the literature. Individuals diagnosed with borderline personality disorder may exhibit impulsive suicidal behavior in addition to many of the known adverse psychiatric effects of LEV. To date LEV does not have a Black Box warning related to suicide. Given the high risk of suicide in patients with borderline personality disorder more data are needed to determine the safety of LEV use in patients exhibiting these traits.

Monday May 06

**The influence of Combat Exposure and Moral Injury on Indicators of Mental Health and Well-Being During Transition from Military to Civilian Life.**

*Natascha Richardson; Walter Sowden Ph.D.*

Background: During service military members are at risk of experiencing moral injury (MI). Thousands of service members transition out of the military each year with estimates of 1 in 4 having experienced MI. The transition process to civilian life is challenging and complex with the vulnerability of veterans’ mental health being particularly acute during this time. Few studies have examined the effects of transition on mental health longitudinally and fewer consider the role MI plays. The current study set out to examine the temporal relationship of MI on transitioning soldiers’ mental health using a pre-/post-separation design. Methods: We collected data from 285 U.S. Army soldiers undergoing the transition to civilian life. Surveys were administered 6 months prior to and 6 months post-separation. Surveys encompassed measures of mental health and well-being including depression (PHQ9) anxiety (GAD7) PTSD (PCL-5) somatic symptoms (PHQ15) alcohol misuse (AUDIT-C) loneliness (UCLA) and life satisfaction (SWL). The Deployment Risk and Resilience Inventory-2 Combat Experiences (DRRI-2-CE) and the Moral Injury Events Scale (MIES) were also included. Factor analyses produced a single factor measure for combat exposure (CE) and a bifactorial structure for moral injury yielding Self-Directed Moral Injury (SDMI) and Other-Directed Moral Injury (ODMI). The sample was primarily composed of service members aged 22 to 40 (69.5%) the majority of whom were male (75.8%) and white (71.6%). Results: Our analyses disclosed key patterns. Specifically SDMI was significantly associated with changes in a range of mental health indicators post-separation. SDMI was related to increases in depression (B = .198 p = .021) anxiety (B = .193 p = .017) somatic symptoms (B = .233 p = .002) and alcohol misuse (B = .086 p =

.013). Notably neither CE nor ODMI was significantly associated with changes to these or any other indicators of mental health and well-being that were collected (e.g. PTSD loneliness or life satisfaction). Conclusion: This research makes a valuable contribution to the study of transitioning veterans' mental health. MI specifically self-directed MI was associated with significant changes in mental health indicators related to depression anxiety somatization and alcohol misuse. These findings indicate that SDMI rather than CE or ODMI is a key driver of changes in multiple facets of mental health and well-being during the military-to-civilian transition. These results may allow for more effective care for members transitioning out of service. Disclosure: The views expressed in this presentation are those of the author and do not necessarily reflect the official policy of the Department of Defense Department of the Army U.S. Army Medical Department or the U.S. Government.

Monday May 06

### **Understanding university students' perspectives towards digital tools for mental health support: a cross-country study**

*Chiara Alessandra Capogrosso*

Objectives. Poor mental health of university students is a growing concern for public health. Indeed higher education settings are likely to exacerbate students' vulnerability to psychological distress. Though organisational and individual barriers often prevent university students from seeking mental health support. Digital technologies are recognised as effective in managing psychological distress and as a source of health-related information thus representing useful options to address mental health

needs in terms of accessibility and cost-effectiveness. Despite the usefulness of digital tools for assessing and managing psychological distress little is known about university students' experiences and perspectives towards such interventions. We therefore aimed to address this evidence gap by directly interviewing university students. Methods. Data were from the qualitative component of "the CAMPUS study" longitudinally assessing mental health of students at the University of Milano-Bicocca (Italy) and the University of Surrey (UK). We conducted in-depth interviews and thematically analysed the transcripts including cross-cultural comparison between Italy and the UK. Results. An explanatory model was derived from five themes identified across 33 interviews. Students perceived that social media apps and podcasts could deliver relevant mental health content ranging from primary to tertiary prevention. Wide availability and anonymity were perceived as advantages that make tools suitable for preventive interventions to reduce mental health stigma and as an extension of standard treatment. These goals can be hindered by some disadvantages namely lower efficacy as compared to face-to-face contact lack of personalization and problematic engagement. Individual and cultural specificities might influence awareness and perspectives on the use of digital technologies for mental health support. Conclusions. Although considering some specific features digital tools could be a useful instrument to support mental health needs of students. Since personal contact remains crucial digital tools should be integrated with face-to-face interventions through a multi-modal approach. This research received no specific grant from any funding agency commercial or not-for-profit sectors.

Monday May 06

## **Unravelling Developmental Trauma Disorder: A Commentary and Critical Analysis of Current Literature**

*Rithvic Jupudi BA; Katarina Bojkovic; Anthony Schinelli; Brooke Jennings; Robert Bossarte*

**BACKGROUND** Violent crime has gained significant recent media attention and with discourse in professional and public circles regarding the role of mental illness in the perpetration of these crimes differing a deeper discussion of the predisposing factors for violence perpetration or victimization is merited. We believe the examination of risk factors for psychiatric illness such as antecedents to violence early exposure to traumatic events and related stress is of particular importance. Research suggests that up to 90% of youth involved with the U.S. criminal justice system have histories of significant complex trauma. Therefore a broader consideration of early exposure to stressors as a foundation for trauma-informed models of care is needed.

**METHODS** We conducted a literature review using key terms including “violence mental illness/health juvenile guns trauma developmental trauma disorder and risk factors”. Studies outside of the USA and beyond 15 years old were excluded. We identified 52 PubMed indexed articles included in the final analysis. **RESULTS** In 2005 Van Der Kolk and colleagues proposed the inclusion of Developmental Trauma Disorder (DTD) in the DSM-V after observation that repeated childhood trauma presents with a complex sequela of disorders. DTD was defined as “triggered dysregulation in response to traumatic reminders stimulus generalization and the anticipatory organization of behavior to prevent the

recurrence of the trauma effects.” Victims displayed similar manifestations including self-destructive impulsive behavior and depression in adulthood. Patients often feel incapable of regulating their emotions likely due to depressed dopaminergic and serotonergic centers of the brain involved in learning and stress management along with executive functions such as judgment due to constant stress. In 2021 the APA recognized that traumatized children may not fit into characteristic PTSD potentially leading to misdiagnoses of ADHD and ODD. **CONCLUSIONS** Ample evidence suggests childhood trauma may place children at risk for violence later in life. Along with the 6-prong approach to trauma informed care released by the CDC our review suggests a need for innovative scalable treatment options for low resource settings. Peer support has been a successful component of substance abuse treatments with improvements in self-efficacy and other attributes. These models may be a part of the solution for treatment strategies targeting members of this population. Our future direction is to consider the use of digital mental health intervention (DHMI) platforms for use in low resource settings and youth who may be reluctant to engage in psychiatric care. Overall we call for action by those in the field to help examine consequences of traumatic exposure at key developmental stages and how these consequences may differ from current understandings of complex or comorbid PTSD.

Monday May 06

## **Wellness When it Counts: Cultivating Resilient Psychiatrists Through a Patient Suicide Curriculum**

*Kellen Andersen; Brooke Gertz; Sara Bharwani; Nicholas DiStefano; Jyotsna Ranga*

Suicide is among the top 10 leading causes of death for all age groups in the U.S. About 25% of patients who die by suicide have seen their behavioral health provider in the previous month. One in three residents experiences a patient suicide. Despite the common occurrence formal training in the management of patient suicide is lacking. Psychiatrists have leadership roles that include informing the family supporting staff communicating with the proper officials and accurately documenting events in the medical record. Despite the important role of psychiatrists they are not taught how to manage a patient suicide. This study examines whether a multi-pronged curriculum in the residency prepares residents and attending psychiatrists to better deal with this adverse event. The first part of the curriculum was an initial presentation during orientation week that introduced the patient suicide protocol with a resource brochure that included a flow chart of steps to take following a patient suicide and information about what to expect from the residency program such as scheduled check-ins from leadership. Second a psychological first aid training course was provided in November 2021 in which residents revise and practice coping skills to navigate difficult situations in their professional lives. The last step was a Schwartz Center Rounds in February 2022 focused on supporting experienced clinicians who shared their stories of loss and resilience. An Epic smart phrase accompanied the curriculum to guide documentation following patient suicide. The effectiveness of the intervention was assessed by a Qualtrics survey administered before and after the curriculum. The objective was to improve resident confidence in

managing patient suicide measured by a series of questions that describe resident comfort level to address various aspects of patient suicide such as accessing help following medicolegal processes disseminating information and documenting correctly. Results from the pre-curriculum survey of 27 residents revealed that although 74.1% of residents believed that patient suicide is common 14.81% of residents were “not at all confident” to manage the clinical situation and 29.63% of the residents were only “a little confident.” No one identified as “very confident” to address documentation medicolegal processes or root cause analysis related to patient suicide. After curriculum implementation residents reported significant improvement in all areas except sharing the news with patient family and staff. The effect sizes were largest for resident confidence in chart documentation and medicolegal processes following patient suicide. By developing a model for teaching the management of patient suicide we will prepare our learners to handle this event when it occurs either in training or in their psychiatry careers.

**Monday May 06**

### **Women’s Psychosocial Challenges Following Perinatal Loss in Pakistan and the Need for Supportive Interpregnancy Care**

*Armaan Rowther MD PhD*

Miscarriage and stillbirth are major causes of preventable morbidity and mortality and associated with negative psychological outcomes including depression anxiety complicated grief and post-traumatic stress<sup>1</sup> and resulting distress or trauma can have lasting adverse effects on the mother and her subsequent pregnancies.<sup>2</sup> Of the 2 million

stillbirths occurring each year 98% are in low- and middle-income countries (LMICs) and one-third are in South Asia with among the highest rates of miscarriage and stillbirth in Pakistan.<sup>3</sup> To better understand the specific needs of women with psychological distress in subsequent pregnancies we aimed to retrospectively explore the postpartum experiences of women in Pakistan who lost a prior pregnancy to miscarriage or stillbirth subsequently conceived and also endorsed symptoms of anxiety in their current pregnancy. We conducted in-depth interviews with 18 anxious pregnant married women drawn at Holy Family Hospital (HFH) in Rawalpindi from September to June 2022 and we analyzed interview transcripts using an indicative thematic framework. The mean age of the women was 28 (range 19–39 years) and about one-third lived in nuclear families while the remainder practiced “joint family” or patrilocal residence with members of their *susral* (husbands’ parents and family). The average number of prior pregnancies per woman was about 4 (range 1 to 8) and the cumulative number of pregnancy losses across the entire cohort was 44 (29 miscarriages and 15 stillbirths) with two women having 5 or more past losses. Self-recrimination for the pregnancy loss was common often enmeshed in stories attributing the pregnancy loss to inappropriate diet or lack of precautions against travel heavy chores or other physically demanding tasks. Spirituality appeared in women’s accounts of miscarriage and stillbirth in one of two ways: either as consolatory beliefs about fate and God’s ultimate power over the outcome of their pregnancy or as suspicions of evil eye a phenomenon of harm that results from another’s envy. Women described significant emotional and psychological distress after the loss including uncontrollable anger deep

anguish persistent negative thoughts fear irritation tearfulness loss of motivation nightmares and ruminations on guilt or traumatic memories. In the aftermath of the pregnancy loss women described specific responses by family and providers as contributing to their distress. Chief among them was delaying or withholding information about and exposure to the deceased fetus. In many cases reactions by family and others to the pregnancy loss were more explicitly stigmatizing perceived by women as reinforcing notions of personal blame or accountability for their pregnancy loss. Our findings point to natural targets for preventative psychosocial interventions and the need for development and implementation of postpartum and supportive interpregnancy care after perinatal loss.